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# annual data 1990

COPPER • BRASS • BRONZE

## copper supply & consumption

## 1969-1989

COPPER DEVELOPMENT ASSOCIATION INC.

# Preface

Statistical data on the supply and consumption of copper and copper alloys in the United States are available from many governmental and private sources. In this report original data from these sources are brought together and rationalized by CDA and American Bureau of Metal Statistics Inc. (ABMS) to provide a set of data on U.S. copper supply and consumption that is both consistent and accurate in all aspects from mine to end-use market.

The main sources of information assembled here are the Bureau of Mines in the U.S. Department of the Interior, the Bureau of the Census in the U.S. Department of Commerce, and Copper Development Association Inc. Where data from different sources are conflicting, and where original data appear to be in error, the best judgment has been applied. General sources are shown in the tables throughout the report. Those interested to know the specific sources of any of the data should contact CDA.

The statistics are arranged in a logical sequence to trace the flow of copper in the U.S. economy from mining and scrap collection through smelting, refining and ingot making to the wire rod and wire mills, brass mills, and foundries and then on to the final end-use markets. This flow is shown schematically on pages 4-5. On this schematic flowsheet the major statistics of copper supply and consumption in the United States for 1989 appear. Along with each major statistic on the chart, a reference is shown. This reference identifies the table in the report where details on that item, from 1969 through 1989, will be found. Most data for 1989 are preliminary.

There are four major tables in the report. *Table 1* covers the supply of primary copper. *Table 2* presents data on the supply of copper from secondary sources. In *Table 3,* statistics on the consumption of primary and secondary metals by mills, foundries and other industries are summarized. These three tables are provided by ABMS. Finally, *Table 4* details the supply of mill, foundry and powder products and their consumption in the five end-use market areas. In each of these tables, additions to the flow (such as net imports) are indicated as positive numbers, while subtractions from the flow (such as melting losses or net additions to stocks) are shown as negative numbers.

The arrangement of the data in the report can be illustrated with an example. Consider *Mine Production,* the upper left-hand box in the flowsheet on page 4. As shown in the box, mine production of copper in the United States totaled 1,651.5 thousand short tons in 1989. Beneath this figure a number appears referring to *Table 1, Item 1,* abbreviated *1 (1)*. This means that in *Table 1,* on Line (1), mine production is shown for the full period 1969 through 1989. In *Table 1,* on Line (1), a further reference will be found after the item heading *Mine Production*, directing the reader to page 7. This reference means that further details on mine production appear on page 7. In fact, on page 7, a table entitled *Table 1, Item 1* presents the data on mine production by state for 1969 through 1989. In this way all the data on supply and consumption appear in logical sequence proceeding through the report, eliminating the need for explanatory text.

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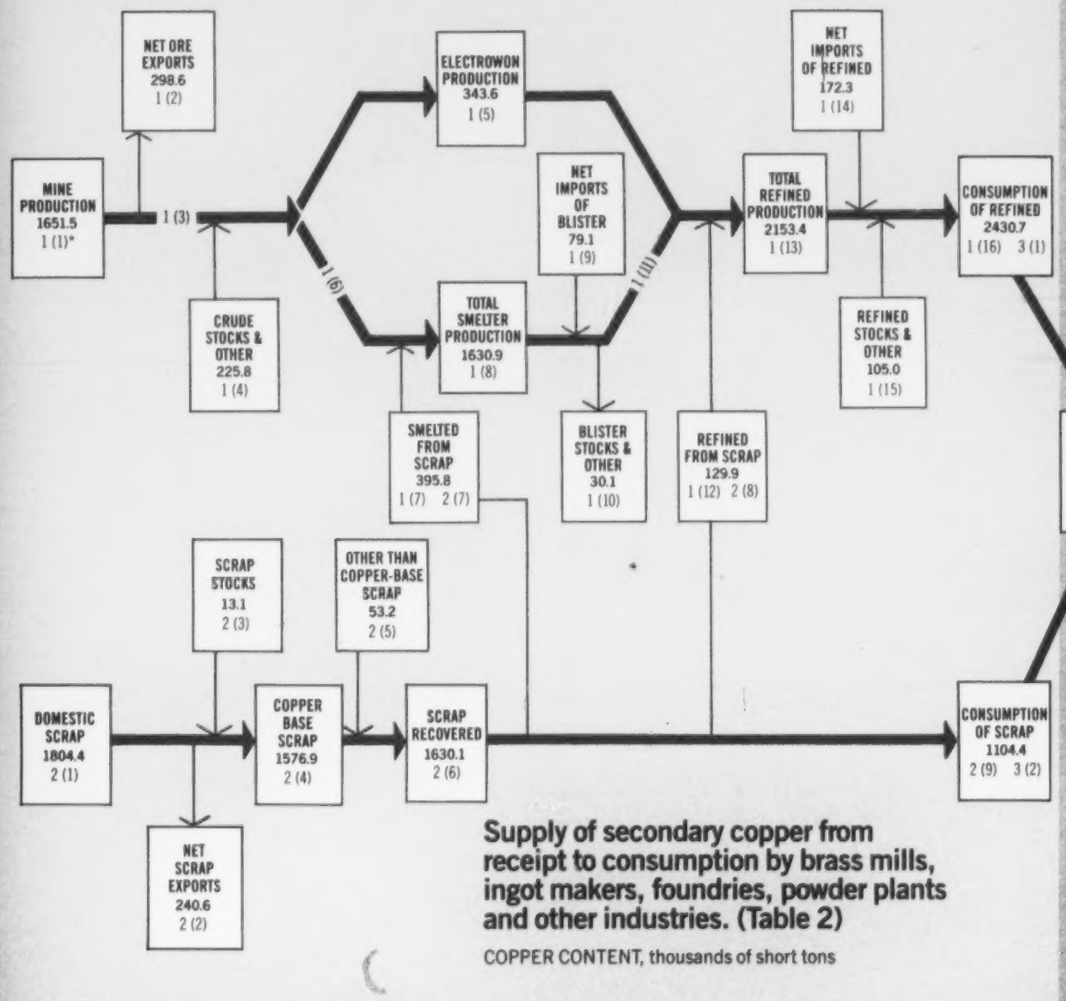
# Copper supply and consumption in the United States 1989

## Supply of primary copper from mine to consumption by wire rod mills, brass mills, ingot makers, foundries, powder plants and other industries. (Table 1)

COPPER CONTENT, thousands of short tons


NET ORE EXPORTS 298.6 1 (2)
MINE PRODUCTION 1651.5 1 (1)*
1 (3)
CRUDE STOCKS & OTHER 225.8 1 (4)
ELECTROWON PRODUCTION 343.6 1 (5)
1 (6)
TOTAL SMELTER PRODUCTION 1630.9 1 (8)
NET IMPORTS OF BLISTER 79.1 1 (9)
1 (11)
SMELTED FROM SCRAP 395.8 1 (7) 2 (7)
BLISTER STOCKS & OTHER 30.1 1 (10)
NET IMPORTS OF REFINED 172.3 1 (14)
TOTAL REFINED PRODUCTION 2153.4 1 (13)
REFINED STOCKS & OTHER 105.0 1 (15)
REFINED FROM SCRAP 129.9 1 (12) 2 (8)
CONSUMPTION OF REFINED 2430.7 1 (16) 3 (1)
SCRAP STOCKS 13.1 2 (3)
OTHER THAN COPPER-BASE SCRAP 53.2 2 (5)
DOMESTIC SCRAP 1804.4 2 (1)
COPPER BASE SCRAP 1576.9 2 (4)
SCRAP RECOVERED 1630.1 2 (6)
NET SCRAP EXPORTS 240.6 2 (2)
CONSUMPTION OF SCRAP 1104.4 2 (9) 3 (2)
COPPER CONSUMED 3535.1 3 (3)

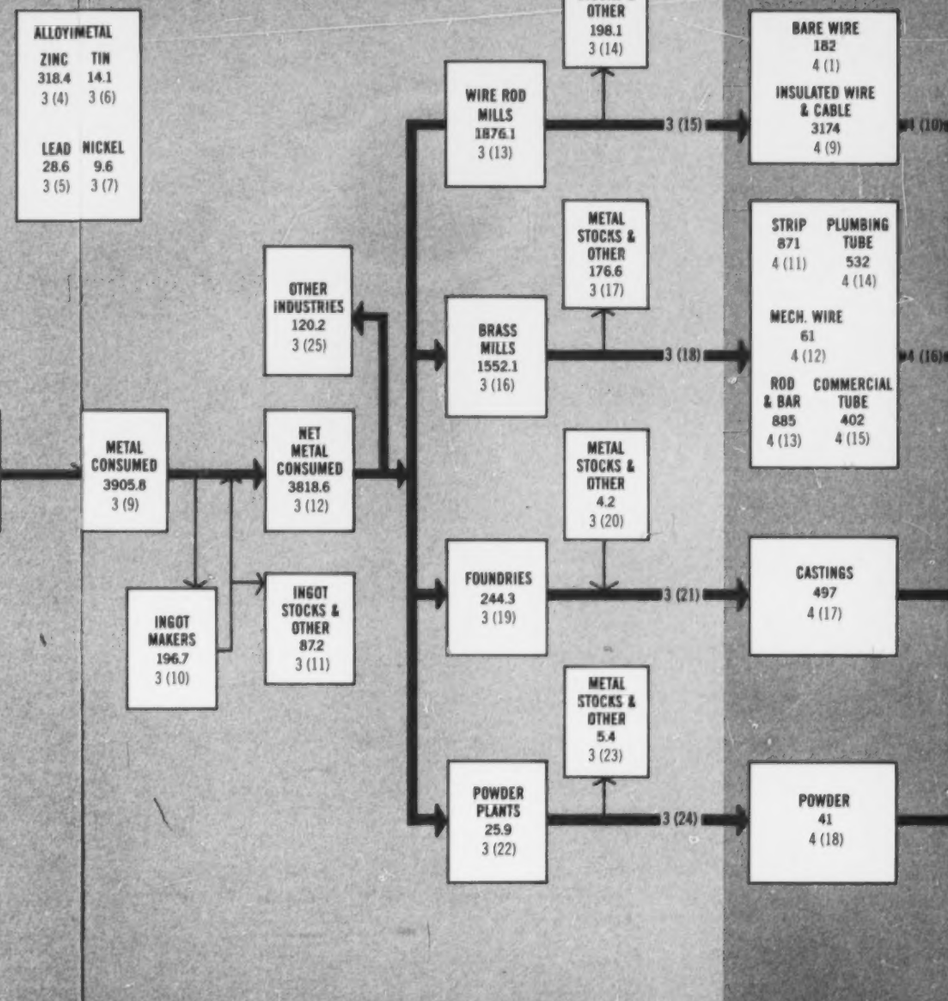
## Supply of secondary copper from receipt to consumption by brass mills, ingot makers, foundries, powder plants and other industries. (Table 2)

COPPER CONTENT, thousands of short tons

*1 (1) Refers to table and item in report where data for 1969 through 1989 appear.

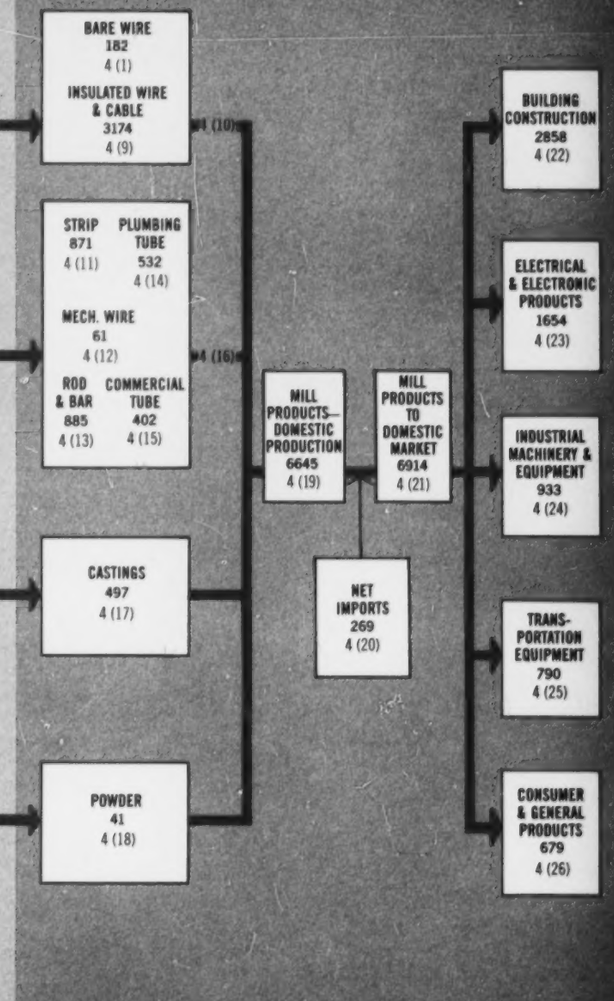
## Consumption of metals by wire rod mills, brass mills, ingot makers, foundries, powder plants and other industries. (Table 3)

METAL CONTENT, thousands of short tons


ALLOY/METAL
ZINC 318.4 3 (4)
TIN 14.1 3 (6)
LEAD 28.6 3 (5)
NICKEL 9.6 3 (7)
METAL CONSUMED 3905.8 3 (9)
OTHER INDUSTRIES 120.2 3 (25)
NET METAL CONSUMED 3818.6 3 (12)
INGOT MAKERS 196.7 3 (10)
INGOT STOCKS & OTHER 87.2 3 (11)
WIRE ROD MILLS 1876.1 3 (13)
METAL STOCKS & OTHER 198.1 3 (14)
3 (15)
BRASS MILLS 1552.1 3 (16)
METAL STOCKS & OTHER 176.6 3 (17)
3 (18)
FOUNDRIES 244.3 3 (19)
METAL STOCKS & OTHER 4.2 3 (20)
3 (21)
POWDER PLANTS 25.9 3 (22)
METAL STOCKS & OTHER 5.4 3 (23)
3 (24)

## Supply of wire mill, brass mill, foundry and powder products and their consumption in the end-use markets. (Table 4)

METAL CONTENT, millions of pounds


BARE WIRE 182 4 (1)
INSULATED WIRE & CABLE 3174 4 (9)
STRIP 871 4 (11)
PLUMBING TUBE 532 4 (14)
MECH. WIRE 61 4 (12)
ROD & BAR 885 4 (13)
COMMERCIAL TUBE 402 4 (15)
CASTINGS 497 4 (17)
POWDER 41 4 (18)
MILL PRODUCTS—DOMESTIC PRODUCTION 6645 4 (19)
NET IMPORTS 269 4 (20)
MILL PRODUCTS TO DOMESTIC MARKET 6914 4 (21)
BUILDING CONSTRUCTION 2858 4 (22)
ELECTRICAL & ELECTRONIC PRODUCTS 1654 4 (23)
INDUSTRIAL MACHINERY & EQUIPMENT 933 4 (24)
TRANS-PORTATION EQUIPMENT 790 4 (25)
CONSUMER & GENERAL PRODUCTS 679 4 (26)

# Table 1

## Supply of primary copper from mine to consumption by wire rod mills, brass mills, ingot makers, foundries, powder plants and other industries

COPPER CONTENT, thousands of short tons

| | | 1969 | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 | 1989p |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| (1) | Mine Production (page 7) | 1,544.6 | 1,719.7 | 1,522.2 | 1,664.8 | 1,717.9 | 1,597.0 | 1,413.4 | 1,605.6 | 1,504.0 | 1,496.5 | 1,594.6 | 1,301.9 | 1,695.5 | 1,264.3 | 1,144.3 | 1,215.4 | 1,217.9r | 1,261.3r | 1,370.9r | 1,564.8r | 1,651.5 |
| (2) | Net Ore Imports (page 8) | 37.9 | –27.7 | 23.1 | 35.4 | 19.4 | 36.7 | 65.7 | 74.8 | 42.2 | 13.9 | –23.9 | –101.2 | –130.2 | –107.1 | 55.7 | –50.2 | –120.5 | –186.2 | –124.7 | –230.3 | –298.6 |
| (3) | Total Crude Primary | 1,582.5 | 1,692.0 | 1,545.3 | 1,700.2 | 1,737.3 | 1,633.7 | 1,479.1 | 1,680.4 | 1,546.2 | 1,510.4 | 1,570.7 | 1,200.7 | 1,565.3 | 1,157.2 | 1,200.0 | 1,165.2 | 1,097.4r | 1,075.1r | 1,246.2r | 1,334.5r | 1,352.9 |
| (4) | Crude Stocks and Other | 27.1 | –14.5 | –9.3 | 21.6 | 47.6 | –29.4 | 8.1 | –42.0 | 26.9 | 14.5 | 8.8 | 38.7 | 61.5 | 62.1 | –64.9 | 63.1 | 39.3r | 64.1r | 3.0r | 66.4r | 225.8 |
| (5) | Electrowon Production | 24.1 | 36.2 | 36.0 | 31.4 | 40.9 | 34.4 | 40.1 | 103.7 | 137.9 | 104.7 | 107.2 | 127.9 | 175.3 | 143.8 | 112.4 | 110.4 | 99.7 | 138.2 | 177.6r | 251.3r | 343.6 |
| (6) | Smelter Production From Primary | 1,585.5 | 1,641.3 | 1,500.0 | 1,690.4 | 1,744.0 | 1,569.9 | 1,447.1 | 1,534.7 | 1,435.2 | 1,420.2 | 1,472.3 | 1,111.5 | 1,451.5 | 1,075.5 | 1,022.7 | 1,117.9 | 1,037.0 | 1,001.0 | 1,071.6 | 1,149.6 | 1,235.1 |
| (7) | Smelter Production From Scrap | 77.3 | 78.9 | 66.3 | 69.0 | 77.8 | 79.5 | 49.4 | 51.0 | 49.4 | 59.8 | 66.4 | 49.5 | 67.1 | 49.7 | 65.3 | 186.6 | 275.7 | 317.3 | 304.9 | 353.0r | 395.8 |
| (8) | Total Smelter Production (page 8) | 1,662.8 | 1,720.2 | 1,566.3 | 1,759.4 | 1,821.8 | 1,649.4 | 1,496.5 | 1,585.7 | 1,484.6 | 1,480.0 | 1,538.7 | 1,161.0 | 1,518.6 | 1,125.2 | 1,088.0 | 1,304.5 | 1,312.7 | 1,318.3 | 1,376.5 | 1,502.6r | 1,630.9 |
| (9) | Net Imports of Blister (page 8) | 233.6 | 216.6 | 128.0 | 148.9 | 146.6 | 205.1 | 87.4 | 41.1 | 28.3 | 70.0 | 66.9 | 47.6 | 71.1 | 111.8 | 79.4 | 57.1 | 11.6 | 33.4 | 34.4 | 72.5 | 79.1 |
| (10) | Blister Stocks and Other (page 9) | –100.4 | –129.0 | –72.2 | 2.5 | –63.0 | –154.7 | –131.2 | –140.2 | –105.2 | 2.4 | 24.0 | 47.7 | 4.1 | 21.2 | 88.5 | 8.8r | 17.1r | 11.3 | –41.4r | 76.4r | –30.1 |
| (11) | Refined Production from Blister | 1,796.0 | 1,807.8 | 1,622.1 | 1,910.8 | 1,905.4 | 1,699.8 | 1,452.7 | 1,486.6 | 1,407.7 | 1,552.4 | 1,629.6 | 1,256.3 | 1,593.8 | 1,258.2 | 1,255.9 | 1,370.4r | 1,341.4r | 1,363.0 | 1,369.5r | 1,651.5r | 1,679.9 |
| (12) | Refined Production from Scrap | 394.8 | 398.7 | 304.3 | 316.3 | 366.3 | 404.4 | 282.1 | 300.2 | 303.0 | 362.3 | 441.2 | 474.3 | 465.1 | 465.7 | 377.5 | 151.3r | 134.1r | 130.1 | 152.3r | 144.4r | 129.9 |
| (13) | Total Refined Production (page 9) | 2,214.9 | 2,242.7 | 1,962.4 | 2,258.5 | 2,312.6 | 2,138.6 | 1,774.9 | 1,890.5 | 1,848.6 | 2,019.4 | 2,178.0 | 1,858.5 | 2,234.2 | 1,867.7 | 1,745.8 | 1,632.1r | 1,575.2r | 1,631.3 | 1,699.4r | 2,047.2r | 2,153.4 |
| (14) | Net Imports of Refined (page 9) | –83.8 | –89.9 | –23.7 | 9.7 | 8.8 | 177.2 | –26.4 | 266.1 | 327.8 | 342.7 | 147.1 | 481.1 | 325.2 | 274.2 | 435.2 | 450.4 | 350.3 | 524.9 | 536.7 | 300.3 | 172.3 |
| (15) | Refined Stocks and Other (page 10) | 19.1 | –102.3 | 82.3 | –30.6 | 126.9 | –112.3 | –206.2 | –159.1 | 16.8 | 59.6 | 60.9 | –280.8 | –322.3 | –307.5 | –184.2 | 257.4r | 232.8r | 158.6 | 108.2r | 84.1r | 105.0 |
| (16) | Consumption of Refined (page 10) | 2,150.2 | 2,050.5 | 2,021.0 | 2,237.6 | 2,448.3 | 2,203.5 | 1,542.3 | 1,997.5 | 2,193.2 | 2,421.7 | 2,386.0 | 2,058.8 | 2,237.1 | 1,834.4 | 1,996.8 | 2,339.9 | 2,158.3 | 2,314.8 | 2,344.3r | 2,431.6r | 2,430.7 |

Sources: U.S. Department of the Interior, Bureau of Mines;
U.S. Department of Commerce, Bureau of the Census; ABMS.

p - preliminary r - revised

# Table 1, Item 1.

## Mine production of recoverable copper in the United States

COPPER CONTENT, thousands of short tons

| | 1969 | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 | 1989p |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Arizona | 801.4 | 917.9 | 820.2 | 908.6 | 927.3 | 858.8 | 813.2 | 1,024.4 | 923.8 | 982.6 | 1,046.1 | 848.9 | 1,147.3 | 848.3 | 747.6 | 822.8 | 877.0r | 866.5r | 827.9r | 931.9r | 992.3 |
| Michigan | 75.2 | 67.5 | 56.0 | 67.3 | 72.2 | 67.0 | 73.7 | 43.7 | 42.4 | 38.4 | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| Missouri | 12.7 | 12.1 | 8.4 | 11.5 | 10.3 | 12.7 | 14.3 | 11.1 | 11.7 | 11.9 | 14.4 | 15.0 | 9.3 | 8.8 | 8.5 | 6.4 | 14.8 | (b) | (b) | (b) | (b) |
| Montana | 103.3 | 120.4 | 88.6 | 123.1 | 132.5 | 131.1 | 88.0 | 91.1 | 86.2 | 74.2 | 77.0 | 41.6 | 68.9 | 71.6 | 36.8 | 24.1 | 16.6 | (b) | (b) | (b) | (b) |
| Nevada | 104.9 | 106.7 | 96.9 | 101.1 | 93.7 | 84.1 | 81.2 | 58.2 | 67.1 | 22.5 | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| New Mexico | 120.0 | 166.3 | 157.4 | 168.0 | 204.7 | 196.6 | 146.3 | 172.4 | 164.7 | 140.9 | 181.1 | 164.7 | 169.9 | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| Tennessee | 15.4 | 15.5 | 13.9 | 11.3 | 8.5 | 6.3 | 10.0 | 11.1 | 6.2 | 12.4 | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| Utah | 296.7 | 295.7 | 263.5 | 259.5 | 256.6 | 230.6 | 177.2 | 185.5 | 194.1 | 205.4 | 212.8 | 173.9 | 232.9 | 208.4 | 187.1 | (b) | (b) | (b) | (b) | (b) | (b) |
| Other States [a] | 15.0 | 17.6 | 17.3 | 14.4 | 12.1 | 9.8 | 9.5 | 8.1 | 7.8 | 8.2 | 63.2 | 57.8 | 67.2 | 127.2 | 164.3 | 362.1 | 309.5r | 394.8 | 543.0r | 632.9r | 659.2 |
| TOTAL | 1,544.6 | 1,719.7 | 1,522.2 | 1,664.8 | 1,717.9 | 1,597.0 | 1,413.4 | 1,605.6 | 1,504.0 | 1,496.5 | 1,594.6 | 1,301.9 | 1,695.5 | 1,264.3 | 1,144.3 | 1,215.4 | 1,217.9r | 1,261.3r | 1,370.9r | 1,564.8r | 1,651.5 |

Sources: U.S. Department of the Interior, Bureau of Mines; ABMS. p - preliminary r - revised

(a) - Includes California, Colorado, Idaho, Maine, Oregon, Pennsylvania & Washington.

(b) - Included in Other States.

## Mine production of recoverable copper in the World

COPPER CONTENT, thousands of short tons

| | 1969 | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 | 1989p |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Australia | 144.2 | 173.9 | 195.4 | 204.8 | 242.8 | 277.0 | 241.4 | 240.9 | 244.3 | 244.8 | 261.9 | 268.4 | 255.0 | 270.4 | 288.3 | 259.8 | 286.4 | 273.8 | 256.5 | 262.7r | 306.6 |
| Brazil | 3.3 | 4.2 | 5.8 | 5.0 | 3.7 | 3.4 | 2.1 | 0.1 | — | 0.1 | — | 0.4 | 15.3 | 26.9 | 35.4 | 38.8 | 45.2 | 44.3r | 43.2r | 49.4r | 47.4 |
| Bulgaria | 43.3 | 44.4 | 47.4 | 52.9 | 52.9 | 56.9 | 60.6 | 62.8 | 62.8 | 63.9 | 66.1 | 68.3 | 68.3 | 71.7 | 75.0 | 80.5 | 86.0 | 88.2 | 88.2 | 88.2 | 88.2 |
| Canada | 573.2 | 672.7 | 721.5 | 793.3 | 908.2 | 905.4 | 808.9 | 805.7 | 837.1 | 726.9 | 701.5 | 789.7 | 762.0 | 675.2 | 719.8 | 795.6 | 814.2 | 770.0 | 875.3r | 836.1r | 778.4 |
| Chile | 758.5 | 762.4 | 780.8 | 790.1 | 810.6 | 994.4 | 913.0 | 1,108.0 | 1,162.1 | 1,140.0 | 1,171.4 | 1,177.2 | 1,191.7 | 1,369.3 | 1,386.2 | 1,422.8 | 1,495.2 | 1,543.0 | 1,563.2r | 1,599.5r | 1,773.9 |
| China (including Mongolia) | 93.7 | 110.2 | 121.3 | 126.8 | 132.3 | 143.3 | 154.3 | 165.3 | 170.9 | 180.8 | 200.3 | 230.4 | 266.5 | 297.6 | 297.6 | 308.6 | 330.7 | 374.8 | 518.1r | 551.2r | 551.2 |
| India | 11.0 | 10.7 | 12.3 | 16.1 | 24.7 | 22.9 | 26.7 | 28.0 | 33.3 | 29.3 | 30.5 | 30.4 | 27.8 | 26.5 | 48.3 | 51.8 | 52.9 | 54.2 | 59.6 | 56.8 | 58.7 |
| Indonesia | — | — | — | 5.5 | 41.8 | 72.1 | 70.0 | 76.2 | 62.9 | 63.9 | 66.4 | 65.0 | 69.0 | 82.8 | 86.6 | 94.4 | 97.8 | 105.6 | 116.1 | 138.8r | 138.8 |
| Iran | 0.9 | 1.1 | 1.1 | 1.3 | 2.2 | 2.2 | 4.4 | 6.6 | 6.6 | 6.6 | 3.3 | 1.1 | 2.2 | 47.4 | 63.5 | 47.7 | 44.1 | 55.1 | 44.1 | 56.2r | 66.1 |
| Japan | 133.5 | 131.7 | 133.4 | 123.6 | 100.6 | 90.5 | 93.7 | 89.9 | 89.7 | 79.4 | 65.1 | 58.0 | 56.8 | 55.9 | 50.7 | 47.7 | 47.6 | 38.5 | 26.2r | 18.4 | 16.1 |
| Mexico | 73.0 | 67.2 | 69.7 | 86.8 | 88.7 | 91.2 | 86.2 | 98.1 | 98.9 | 96.1 | 118.1 | 193.3 | 254.1 | 263.6 | 227.2 | 208.4 | 197.2 | 200.6r | 272.9 | 301.5 | 297.6 |
| Namibia (South West Africa) | 28.1 | 25.1 | 28.5 | 23.7 | 31.7 | 36.6 | 38.5 | 48.0 | 55.2 | 41.6 | 46.2 | 43.2 | 48.8 | 53.8 | 57.4 | 55.1 | 52.5 | 55.0 | 42.7 | 45.1 | 36.3 |
| Papua New Guinea | — | — | — | 136.7 | 201.6 | 202.9 | 190.1 | 194.6 | 201.0 | 218.9 | 188.3 | 161.8 | 182.3 | 187.4 | 201.9 | 181.2 | 192.9 | 196.9 | 240.0 | 235.6r | 226.0 |
| Peru | 219.1 | 242.7 | 228.5 | 241.5 | 223.4 | 233.2 | 194.0 | 207.2 | 370.4 | 419.9 | 446.9 | 404.2 | 361.1 | 392.8 | 355.2 | 401.4 | 441.8 | 438.1 | 448.0r | 328.8 | 401.3 |
| Philippines | 144.8 | 176.7 | 217.8 | 235.6 | 243.8 | 248.6 | 248.9 | 261.9 | 300.7 | 290.6 | 328.8 | 335.7 | 333.2 | 322.0 | 299.2 | 257.3 | 244.9 | 245.4 | 238.2r | 240.6r | 216.4 |
| Poland | 53.2 | 91.4 | 134.7 | 148.8 | 167.6 | 203.9 | 253.5 | 289.9 | 310.9 | 343.9 | 374.8 | 378.1 | 324.7 | 414.5 | 443.5 | 475.1 | 476.2 | 479.5 | 482.8 | 486.1r | 486.1 |
| Portugal | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.3 | 0.2 | 1.2 | 5.5 | 114.3 |
| Scandinavia | 87.5 | 84.9 | 88.6 | 100.1 | 124.5 | 110.7 | 118.6 | 129.8 | 133.0 | 135.9 | 127.4 | 119.7 | 129.0 | 133.6 | 149.6 | 155.9 | 158.0r | 157.4r | 139.8 | 121.9r | 112.0 |
| South Africa | 140.1 | 164.5 | 173.6 | 178.5 | 193.8 | 197.4 | 197.2 | 217.0 | 238.2 | 230.7 | 224.0 | 233.6 | 232.1 | 228.3 | 233.5 | 233.7 | 224.0 | 212.6 | 217.3r | 185.7r | 209.3 |
| United States | 1,544.6 | 1,719.7 | 1,522.2 | 1,664.8 | 1,717.9 | 1,597.0 | 1,413.4 | 1,605.6 | 1,504.0 | 1,496.5 | 1,594.6 | 1,301.9 | 1,695.5 | 1,264.3 | 1,144.3 | 1,215.4 | 1,217.9r | 1,261.3r | 1,370.9r | 1,564.8r | 1,651.5 |
| USSR | 839.0 | 887.0 | 949.0 | 988.0 | 1,017.0 | 1,017.0 | 1,047.2 | 1,080.3 | 1,080.3 | 1,069.2 | 1,069.2 | 1,080.3 | 1,102.3 | 1,113.3 | 1,124.4 | 1,124.4 | 1,135.4 | 1,135.4 | 1,113.3 | 1,091.3r | 1,091.3 |
| Yugoslavia | 90.1 | 100.1 | 104.1 | 113.6 | 123.2 | 123.6 | 126.7 | 132.4 | 128.1 | 135.9 | 122.8 | 128.7 | 122.4 | 131.5 | 142.7 | 128.1 | 133.5 | 129.7 | 122.2 | 114.1r | 109.2 |
| Zaire | 401.4 | 426.7 | 448.8 | 480.3 | 538.5 | 550.8 | 545.4 | 490.1 | 530.9 | 467.2 | 440.7 | 506.7 | 556.4 | 554.2 | 553.6 | 551.9 | 553.5 | 554.0 | 551.8r | 514.8r | 513.3 |
| Zambia | 793.1 | 754.1 | 718.0 | 790.5 | 778.9 | 769.4 | 746.2 | 781.4 | 723.1 | 708.8 | 648.5 | 656.8 | 647.5 | 624.9 | 598.3 | 622.6 | 572.8 | 599.1 | 580.9 | 529.1 | 563.1 |
| Other (20 countries in 1989) | 249.6 | 273.7 | 294.6 | 329.8 | 360.5 | 352.8 | 342.3 | 322.6 | 314.7 | 269.5 | 263.1 | 257.0 | 288.5 | 299.9 | 307.8 | 329.3 | 348.7r | 290.9r | 261.9r | 264.4r | 264.1 |
| TOTAL WORLD | 6,425.2 | 6,925.1 | 6,997.1 | 7,638.1 | 8,130.9 | 8,303.2 | 7,923.3 | 8,442.4 | 8,659.1 | 8,460.4 | 8,559.9 | 8,489.9 | 8,992.5 | 8,907.8 | 8,890.0 | 9,087.5 | 9,249.7r | 9,303.6r | 9,674.4r | 9,686.6r | 10,117.2 |

Sources: United States - U.S. Department of the Interior, Bureau of Mines.
Other Countries - ABMS; Metallgesellschaft; CDA.
p - preliminary r - revised

# Table 1, Item 2.

## Imports and exports of copper ore in the United States

COPPER CONTENT, thousands of short tons

| | 1969 | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 | 1989p |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Imports (Ore, Concentrate, Matte) | 39.1 | 33.8 | 31.3 | 55.0 | 42.9 | 56.0 | 74.0 | 89.6 | 58.0 | 33.2 | 25.2 | 16.5 | 36.0 | 108.1 | 102.8 | 17.1 | 7.7 | 6.0 | 12.8 | 9.1 | 52.3 |
| Exports (Ore, Concentrate, Matte) | -1.2 | -61.5 | -8.2 | -19.6 | -23.5 | -19.3 | -8.3 | -14.8 | -15.8 | -19.3 | -49.1 | -117.7 | -166.2 | -215.2 | -47.1 | -67.3 | -128.2 | -192.2 | -137.5 | -239.4 | -350.9 |
| **Net Imports (Ore, Concentrate, Matte)** | 37.9 | -27.7 | 23.1 | 35.4 | 19.4 | 36.7 | 65.7 | 74.8 | 42.2 | 13.9 | -23.9 | -101.2 | -130.2 | -107.1 | 55.7 | -50.2 | -120.5 | -186.2 | -124.7 | -230.3 | -298.6 |

Source: U.S. Department of Commerce, Bureau of the Census.
p - preliminary

# Table 1, Item 8.

## Smelter production of copper in the United States

COPPER CONTENT, thousands of short tons

| | 1969 | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 | 1989p |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Smelter Production - Domestic Ore (Table 1, Item 6) | 1,547.5 | 1,605.2 | 1,470.8 | 1,649.1 | 1,705.1 | 1,532.1 | 1,374.3 | 1,461.3 | 1,394.4 | 1,399.9 | 1,447.6 | 1,096.2 | 1,427.5 | 1,036.8 | 979.0 | 1,091.2 | 1,035.4 | 1,001.0 | 1,071.6 | 1,149.6 | 1,235.1 |
| Smelter Production - Foreign Ore (Table 1, Item 6) | 38.0 | 36.1 | 29.2 | 41.3 | 38.9 | 37.8 | 72.8 | 73.4 | 40.8 | 20.3 | 24.7 | 15.3 | 24.0 | 38.7 | 43.7 | 26.7 | 1.6 | (a) | (a) | (a) | (a) |
| Smelter Production - Scrap (Table 1, Item 7) | 77.3 | 78.9 | 66.3 | 69.0 | 77.8 | 79.5 | 49.4 | 51.0 | 49.4 | 59.8 | 66.4 | 49.5 | 67.1 | 49.7 | 65.3 | 186.6 | 275.7 | 317.3 | 304.9 | 353.0r | 395.8 |
| **TOTAL SMELTER PRODUCTION** | 1,662.8 | 1,720.2 | 1,566.3 | 1,759.4 | 1,821.8 | 1,649.4 | 1,496.5 | 1,585.7 | 1,484.6 | 1,480.0 | 1,538.7 | 1,161.0 | 1,518.6 | 1,125.2 | 1,088.0 | 1,304.5 | 1,312.7 | 1,318.3 | 1,376.5 | 1,502.6r | 1,630.9 |

Source: U.S. Department of the Interior, Bureau of Mines.
p - preliminary r - revised
(a) - Included under domestic ore.

# Table 1, Item 9.

## Imports and exports of blister copper in the United States

COPPER CONTENT, thousands of short tons

| | 1969 | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 | 1989p |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Imports of Blister Copper | 237.9 | 224.4 | 156.7 | 157.4 | 154.1 | 207.8 | 88.9 | 43.8 | 44.7 | 81.4 | 75.1 | 51.8 | 81.3 | 114.0 | 87.6 | 66.3 | 31.4 | 51.0 | 48.0 | 108.5 | 85.1 |
| Exports of Blister Copper | -4.3 | -7.8 | -28.7 | -8.5 | -7.5 | -2.7 | -1.5 | -2.7 | -16.4 | -11.4 | -8.2 | -4.2 | -10.2 | -2.2 | -8.2 | -9.2 | -19.8 | -17.6 | -13.6 | -36.0 | -6.0 |
| **Net Imports of Blister Copper** | **233.6** | **216.6** | **128.0** | **148.9** | **146.6** | **205.1** | **87.4** | **41.1** | **28.3** | **70.0** | **66.9** | **47.6** | **71.1** | **111.8** | **79.4** | **57.1** | **11.6** | **33.4** | **34.4** | **72.5** | **79.1** |

Source: U.S. Department of Commerce, Bureau of the Census.
p - preliminary

# Table 1, Item 10.

## Blister stocks and other

COPPER CONTENT, thousands of short tons

| | 1969 | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 | 1989p |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| End-of-Year Blister Copper Stocks | 291.0 | 340.0 | 303.0 | 282.0 | 265.0 | 324.0 | 312.0 | 321.0 | 346.0 | 290.0 | 303.1 | 299.8 | 305.3 | 256.8 | 191.8 | 270.1 | 160.9 | 148.8 | 165.3 | 131.2 | 145.5 |
| Net Change [a] | 19.0 | 49.0 | -37.0 | -21.0 | -17.0 | 59.0 | -12.0 | 9.0 | 25.0 | -56.0 | 13.1 | -3.3 | 5.5 | -48.5 | -65.0 | 78.3 | -109.2 | -12.1 | 16.5 | -34.1 | 14.3 |
| Apparent Change [b] | 100.4 | 129.0 | 72.2 | -2.5 | 63.0 | 154.7 | 131.2 | 140.2 | 105.2 | -2.4 | -24.0 | -47.7 | -4.1 | -21.2 | -88.5 | -8.8r | -17.1r | -11.3 | 41.4r | -76.4r | 30.1 |

Sources: U.S. Department of the Interior, Bureau of Mines; ABMS.
p - preliminary r - revised
(a) - Net Change — the year-to-year increase (+) or decrease (–) of blister copper stocks as reported.
(b) - Apparent Change — the difference between Line 11 and the sum of Lines 8 & 9 in Table 1, required to rationalize the CDA flow sheet. Factors other than changes in stocks are included in the apparent change. The sign of the data (+ or –) is opposite that shown in Table 1.

# Table 1, Item 13.

## Production of refined copper in the United States

COPPER CONTENT, thousands of short tons

| | 1969 | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 | 1989p |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Refined Production - Primary Sources (Table 1, Items 1, 2, 4, 9 & 10) | 1,742.8 | 1,765.1 | 1,591.8 | 1,873.2 | 1,868.5 | 1,654.7 | 1,443.4 | 1,539.3 | 1,496.2 | 1,597.3 | 1,670.4 | 1,334.7 | 1,702.0 | 1,352.3 | 1,303.0 | 1,294.2r | 1,165.4r | 1,183.9 | 1,242.2r | 1,549.8r | 1,627.7 |
| Refined Production - Scrap at Smelters (Table 1, Item 7) | 77.3 | 78.9 | 66.3 | 69.0 | 77.8 | 79.5 | 49.4 | 51.0 | 49.4 | 59.8 | 66.4 | 49.5 | 67.1 | 49.7 | 65.3 | 186.6 | 275.7 | 317.3 | 304.9 | 353.0r | 395.8 |
| Refined Production - Scrap at Refiners (Table 1, Item 12) | 394.8 | 398.7 | 304.3 | 316.3 | 366.3 | 404.4 | 282.1 | 300.2 | 303.0 | 362.3 | 441.2 | 474.3 | 465.1 | 465.7 | 377.5 | 151.3r | 134.1r | 130.1 | 152.3r | 144.4r | 129.9 |
| **TOTAL REFINED PRODUCTION** | **2,214.9** | **2,242.7** | **1,962.4** | **2,258.5** | **2,312.6** | **2,138.6** | **1,774.9** | **1,890.5** | **1,848.6** | **2,019.4** | **2,178.0** | **1,858.5** | **2,234.2** | **1,867.7** | **1,745.8** | **1,632.1r** | **1,575.2r** | **1,631.3** | **1,699.4r** | **2,047.2r** | **2,153.4** |

Sources: U.S. Department of the Interior, Bureau of Mines; U.S. Department of Commerce, Bureau of the Census; ABMS.
p - preliminary r - revised

# Table 1, Item 14.

## Imports and exports of refined copper in the United States

COPPER CONTENT, thousands of short tons

| | 1969 | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 | 1989p |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Imports of Refined Copper | 131.2 | 132.1 | 164.0 | 192.4 | 199.9 | 303.9 | 146.0 | 380.7 | 390.8 | 455.8 | 237.2 | 505.0 | 391.2 | 313.9 | 532.4 | 555.9 | 420.1 | 542.0 | 557.0 | 367.1 | 333.0 |
| Exports of Refined Copper | -215.0 | -222.0 | -187.7 | -182.7 | -191.1 | -126.7 | -172.4 | -114.6 | -63.0 | -113.1 | -90.1 | -23.9 | -66.0 | -39.7 | -97.2 | -105.5 | -69.8 | -17.1 | -20.3 | -66.8 | -160.7 |
| **Net Imports of Refined Copper** | **-83.8** | **-89.9** | **-23.7** | **9.7** | **8.8** | **177.2** | **-26.4** | **266.1** | **327.8** | **342.7** | **147.1** | **481.1** | **325.2** | **274.2** | **435.2** | **450.4** | **350.3** | **524.9** | **536.7** | **300.3** | **172.3** |

Source: U.S. Department of Commerce, Bureau of the Census.
p - preliminary

# Table 1, Item 15.

## Refined stocks and other

COPPER CONTENT, thousands of short tons

| | 1969 | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 | 1989p |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| End-of-year Refined Copper Stocks at: | | | | | | | | | | | | | | | | | | | | | |
| Refineries | 41.9 | 142.7 | 82.7 | 99.6 | 43.2 | 151.6 | 260.7 | 272.8 | 286.7 | 188.3 | 78.4 | 73.4 | 151.0 | 210.1 | 66.1 | 193.4 | 150.4 | 145.1 | 63.1 | 42.9 | 56.4 |
| Wire Rod Mills | 63.0 | 134.0 | 120.0 | 75.0 | 61.0 | 131.0 | 140.0 | 133.0 | 116.3 | 69.7 | 48.7 | 54.6 | 120.3 | 137.8 | 127.9 | 147.7 | 110.2 | 72.8 | 30.9 | 32.0 | 38.6 |
| Brass Mills | 56.0 | 49.0 | 50.0 | 35.0 | 43.0 | 42.0 | 33.0 | 39.0 | 34.2 | 30.7 | 27.0 | 24.5 | 29.2 | 28.0 | 28.7 | 29.8 | 22.0 | 15.4 | 16.5 | 18.7r | 13.2 |
| Other Processors | 6.0 | 4.0 | 6.0 | 5.4 | 5.6 | 6.9 | 6.1 | 7.0 | 7.0 | 7.5 | 10.4 | 11.3 | 9.4 | 8.4 | 9.2 | 8.1 | 8.1 | 8.8 | 9.9 | 10.2r | 8.9 |
| Government | 253.4 | 253.4 | 251.6 | 226.6 | 217.8 | 35.3 | 26.2 | 42.1 | 22.6 | 22.5 | 22.3 | 22.3 | 22.3 | 22.3 | 22.3 | 22.3 | 22.3 | 22.3 | 22.3 | 22.3 | 22.3 |
| Commodity Exchange | 4.0 | 17.9 | 20.3 | 57.8 | 5.9 | 43.3 | 100.0 | 201.0 | 184.4 | 179.6 | 107.9 | 179.6 | 187.6 | 274.5 | 409.2 | 276.3 | 120.3 | 93.3 | 18.3 | 13.4 | 16.3 |
| **End-of-Year Total** | **424.3** | **601.0** | **530.6** | **499.4** | **376.5** | **410.1** | **566.0** | **694.9** | **651.2** | **498.3** | **294.7** | **365.7** | **519.8** | **681.1** | **663.4** | **677.6** | **433.3** | **357.7** | **161.0** | **139.5r** | **155.7** |
| Net Change [a] | –8.7 | 176.7 | –70.4 | –31.2 | –122.9 | 33.6 | 155.9 | 128.9 | –43.7 | –152.9 | –203.6 | 71.0 | 154.1 | 161.3 | –17.7 | 14.2 | –244.3 | –75.6 | –196.7 | –21.5r | 16.2 |
| Apparent Change [b] | –19.1 | 102.3 | –82.3 | 30.6 | –126.9 | 112.3 | 206.2 | 159.1 | –16.8 | –59.6 | –60.9 | 280.8 | 322.3 | 307.5 | 184.2 | –257.4r | –232.8r | –158.6 | –108.2r | –84.1r | –105.0 |

Sources: U.S. Department of the Interior, Bureau of Mines; ABMS.
p - preliminary r - revised
(a) - Net Change — the year-to-year increase (+) or decrease (–) of refined copper stocks as reported.
(b) - Apparent Change — the difference between Line 16 and the sum of Lines 13 & 14 in Table 1, required to rationalize the CDA flow sheet. Factors other than changes in stocks are included in the apparent change. The sign of the data (+ or –) is opposite that shown in Table 1.

# Table 1, Item 16.

## Consumption of refined copper in the United States

COPPER CONTENT, thousands of short tons

| | 1969 | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 | 1989p |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Consumption of Refined Copper by: | | | | | | | | | | | | | | | | | | | | | |
| Wire Rod Mills | 1,295.0 | 1,338.7 | 1,324.9 | 1,526.3 | 1,672.3 | 1,474.3 | 1,061.3 | 1,364.0 | 1,511.2 | 1,672.7 | 1,653.0 | 1,442.8 | 1,597.9 | 1,359.0 | 1,399.8 | 1,658.6 | 1,545.1 | 1,644.6 | 1,757.0r | 1,844.8r | 1,876.1 |
| Brass Mills | 799.1 | 660.6 | 655.8 | 667.2 | 714.4 | 670.2 | 439.0 | 584.8 | 628.6 | 682.6 | 672.6 | 564.0 | 591.1 | 433.4 | 551.4 | 635.1 | 566.6 | 622.7 | 538.6r | 536.7r | 506.8 |
| Ingot Makers | 6.7 | 6.8 | 4.5 | 6.0 | 6.1 | 9.2 | 4.5 | 7.5 | 6.6 | 8.2 | 6.9 | 5.5 | 6.0 | 4.8 | 4.9 | 7.6 | 5.9 | 5.8 | 5.8 | 6.2r | 5.9 |
| Foundries | 23.8 | 23.7 | 17.5 | 17.9 | 30.6 | 28.7 | 21.7 | 21.0 | 22.5 | 22.1 | 19.9 | 18.2 | 17.7 | 15.1 | 15.6 | 17.7 | 15.9 | 16.2 | 16.3 | 16.7r | 16.0 |
| Powder Plants | 9.8 | 6.5 | 7.2 | 9.5 | 12.7 | 12.0 | 6.8 | 11.8 | 11.3 | 11.5 | 11.6 | 8.3 | 8.3 | 7.5 | 8.5 | 8.7 | 8.1 | 7.9 | 8.5 | 8.7r | 8.4 |
| Other Industries [a] | 15.8 | 14.2 | 11.1 | 10.7 | 12.2 | 9.1 | 9.0 | 8.4 | 13.0 | 24.6 | 22.0 | 20.0 | 16.1 | 14.6 | 16.6 | 12.2 | 16.7 | 17.6 | 18.1 | 18.5r | 17.5 |
| **TOTAL REFINED CONSUMPTION** | **2,150.2** | **2,050.5** | **2,021.0** | **2,237.6** | **2,448.3** | **2,203.5** | **1,542.3** | **1,997.5** | **2,193.2** | **2,421.7** | **2,386.0** | **2,058.8** | **2,237.1** | **1,834.4** | **1,996.8** | **2,339.9** | **2,158.3** | **2,314.8** | **2,344.3r** | **2,431.6r** | **2,430.7** |

Sources: U.S. Department of the Interior, Bureau of Mines; U.S. Department of Commerce, Bureau of the Census; ABMS.
p - preliminary r - revised
(a) - Chemical, steel, aluminum and other industries.

# Table 2

**Supply of secondary copper from receipt to consumption by brass mills, ingot makers, foundries, powder plants and other industries**

| | COPPER CONTENT, thousands of short tons | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1969 | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 | 1989p |
| (1) Receipts of Domestic Scrap | 1,552.8 | 1,447.6 | 1,334.9 | 1,440.8 | 1,560.9 | 1,504.3 | 1,113.0 | 1,271.1 | 1,318.4 | 1,426.9 | 1,661.6 | 1,541.8 | 1,553.4 | 1,317.1 | 1,302.8 | 1,352.2r | 1,468.3r | 1,488.9 | 1,546.8r | 1,714.5r | 1,804.4 |
| (2) Net Scrap Exports (page 12) [a] | –46.9 | –79.0 | –50.7 | –39.2 | –81.4 | –70.5 | –84.3 | –54.1 | –58.5 | –95.9 | –100.7 | –120.8 | –80.0 | –81.8 | –45.9 | –98.8 | –193.6 | –189.0 | –169.1 | –206.5r | –240.6 |
| (3) Scrap Stocks (page 12) | –15.0 | –13.0 | 17.0 | 7.0 | –2.0 | –3.0 | 5.0 | –19.0 | –10.9 | 22.7 | –10.6 | 12.1 | –10.0 | 9.2 | 7.3 | 9.2 | –23.5 | 22.8 | 0.2 | –12.6 | 13.1 |
| (4) Recovery From Copper-Base Scrap (page 13) | 1,490.9 | 1,355.6 | 1,301.2 | 1,408.6 | 1,477.5 | 1,430.8 | 1,033.7 | 1,198.0 | 1,249.0 | 1,353.7 | 1,550.3 | 1,433.1 | 1,463.4 | 1,244.5 | 1,264.2 | 1,262.6r | 1,251.2r | 1,322.7 | 1,377.9r | 1,495.4r | 1,576.9 |
| (5) Recovery From Other Scrap (page 13) | 19.0 | 16.8 | 17.0 | 19.7 | 21.1 | 21.1 | 28.1 | 35.7 | 37.9 | 39.8 | 42.5 | 38.9 | 42.9 | 40.6 | 42.7 | 42.5r | 42.8r | 44.6 | 46.5r | 50.4 | 53.2 |
| (6) Total Scrap Recovery (page 13) | 1,509.9 | 1,372.4 | 1,318.2 | 1,428.3 | 1,498.6 | 1,451.9 | 1,061.8 | 1,233.7 | 1,286.9 | 1,393.5 | 1,592.8 | 1,472.0 | 1,506.3 | 1,285.1 | 1,306.9 | 1,305.1r | 1,294.0r | 1,367.3 | 1,424.4r | 1,545.8r | 1,630.1 |
| (7) Smelter Production From Scrap | –77.3 | –78.9 | –66.3 | –69.0 | –77.8 | –79.5 | –49.4 | –51.0 | –49.4 | –59.8 | –66.4 | –49.5 | –67.1 | –49.7 | –65.3 | –186.6 | –275.7 | –317.3 | –304.9 | –353.0r | –395.8 |
| (8) Refined Production From Scrap | –394.8 | –398.7 | –304.3 | –316.3 | –366.3 | –404.4 | –282.1 | –300.2 | –303.0 | –362.3 | –441.2 | –474.3 | –465.1 | –465.7 | –377.5 | –151.3r | –134.1r | –130.1 | –152.3r | –144.4r | –129.9 |
| (9) Consumption of Scrap (page 13) | 1,037.8 | 894.8 | 947.6 | 1,043.0 | 1,054.5 | 968.0 | 730.3 | 882.5 | 934.5 | 971.4 | 1,085.2 | 948.2 | 974.1 | 769.7 | 864.1 | 967.2 | 884.2 | 919.9 | 967.2r | 1,048.4r | 1,104.4 |

Sources: U.S. Department of the Interior, Bureau of Mines; U.S. Department of Commerce, Bureau of the Census; ABMS.

p - preliminary r - revised

(a) - Negative (–) signs denote net exports.

# **Table 2,** Item 2.

## Imports and exports of copper-base scrap in the United States

| | COPPER CONTENT, thousands of short tons | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1969 | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 | 1989p |
| Imports of Copper-Base Scrap | 7.7 | 3.8 | 13.8 | 18.8 | 27.1 | 41.7 | 20.2 | 29.4 | 28.6 | 28.8 | 32.0 | 32.5 | 38.8 | 38.8 | 60.1 | 59.6 | 50.9 | 61.6 | 73.0 | 80.8r | 96.0 |
| Exports of Copper-Base Scrap | -54.6 | -82.8 | -64.5 | -58.0 | -108.5 | -112.2 | -104.5 | -83.5 | -87.1 | -124.7 | -132.7 | -153.3 | -118.8 | -120.6 | -106.0 | -158.4 | -244.5 | -250.6 | -242.1 | -287.3r | -336.6 |
| **Net Exports of Copper-Base Scrap** [a] | **-46.9** | **-79.0** | **-50.7** | **-39.2** | **-81.4** | **-70.5** | **-84.3** | **-54.1** | **-58.5** | **-95.9** | **-100.7** | **-120.8** | **-80.0** | **-81.8** | **-45.9** | **-98.8** | **-193.6** | **-189.0** | **-169.1** | **-206.5r** | **-240.6** |

Sources: U.S. Department of Commerce, Bureau of the Census; ABMS.
p - preliminary r - revised
(a) - The negative (–) sign for each year is used to be consistent with the convention used in Tables 1, 2 and 4 — namely that imports are **additions** to the domestic flow, and therefore (+), while exports are **subtractions** from the flow, and therefore (–).

# **Table 2,** Item 3.

## Copper-base scrap stocks

| | COPPER CONTENT, thousands of short tons | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1969 | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 | 1989p |
| Scrap Copper-Base Stocks at: | | | | | | | | | | | | | | | | | | | | | |
| Brass Mills | 39.0 | 43.0 | 37.0 | 36.0 | 44.0 | 45.0 | 46.0 | 48.0 | 54.7 | 44.4 | 45.6 | 44.9 | 39.7 | 45.6 | 39.8 | 40.3 | 30.9 | 32.9 | 39.8 | 41.7 | 36.1 |
| Secondary Smelters | 21.0 | 19.0 | 24.0 | 22.0 | 23.0 | 24.0 | 27.0 | 28.0 | 33.2 | 26.0 | 30.1 | 30.5 | 41.7 | 23.7 | 18.0 | 23.5 | | | | | |
| Primary Producers | 36.0 | 49.0 | 27.0 | 24.0 | 19.0 | 18.0 | 12.0 | 25.0 | 27.7 | 22.1 | 27.5 | 16.6 | 19.1 | 23.7 | 28.2 | 14.3 | 68.9 | 46.8 | 39.8 | 48.4 | 43.0 |
| Foundries | 10.0 | 8.0 | 14.0 | 13.0 | 11.0 | 13.0 | 11.0 | 13.0 | 11.3 | 10.8 | 10.7 | 9.9 | 11.1 | 9.8 | 9.5 | 8.5 | 9.9 | 7.8 | 7.7 | 9.4 | 7.7 |
| Other Processors | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 3.0 | 4.0 | 2.0 | 2.9 | 2.9 | 2.8 | 3.1 | 2.7 | 2.7 | 2.4 | 2.8 | 2.2 | 2.2 | 2.6 | 2.2 |
| **End-of-Year Total** | **110.0** | **123.0** | **106.0** | **99.0** | **101.0** | **104.0** | **99.0** | **118.0** | **128.9** | **106.2** | **116.8** | **104.7** | **114.7** | **105.5** | **98.2** | **89.0** | **112.5** | **89.7** | **89.5** | **102.1** | **89.0** |
| Net Change [a] | 15.0 | 13.0 | -17.0 | -7.0 | 2.0 | 3.0 | -5.0 | 19.0 | 10.9 | -22.7 | 10.6 | -12.1 | 10.0 | -9.2 | -7.3 | -9.2 | 23.5 | -22.8 | -0.2 | 12.6 | -13.1 |

Sources: U.S. Department of the Interior, Bureau of Mines; ABMS.
p - preliminary
(a) - Net Change — the year-to-year increase (+) or decrease (–) of stocks as reported. The sign of the data (+ or –) is opposite that shown in Table 2.

# Table 2, Item 6.

## Recovery of copper from scrap

COPPER CONTENT, thousands of short tons

| | 1969 | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 | 1989p |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Copper Recovered From Copper-Base Scrap | | | | | | | | | | | | | | | | | | | | | |
| New Scrap | 804.9 | 734.2 | 752.5 | 854.4 | 901.9 | 864.2 | 593.6 | 716.1 | 731.2 | 790.4 | 947.0 | 828.6 | 859.7 | 687.3 | 708.7 | 709.0r | 693.6r | 700.2 | 752.1r | 838.5r | 877.4 |
| Old Scrap | 686.0 | 621.4 | 548.7 | 554.2 | 575.6 | 566.6 | 440.1 | 481.9 | 517.8 | 563.3 | 603.3 | 604.5 | 603.7 | 557.2 | 555.5 | 553.6r | 557.6r | 622.5 | 625.8r | 656.9r | 699.5 |
| **Total (Table 2, Item 4)** | **1,490.9** | **1,355.6** | **1,301.2** | **1,408.6** | **1,477.5** | **1,430.8** | **1,033.7** | **1,198.0** | **1,249.0** | **1,353.7** | **1,550.3** | **1,433.1** | **1,463.4** | **1,244.5** | **1,264.2** | **1,262.6r** | **1,251.2r** | **1,322.7** | **1,377.9r** | **1,495.4r** | **1,576.9** |
| Copper Recovered From Scrap Other Than Copper-Base | | | | | | | | | | | | | | | | | | | | | |
| New Scrap | 12.9 | 11.5 | 10.7 | 13.0 | 14.3 | 14.0 | 17.4 | 20.7 | 21.9 | 22.9 | 24.5 | 22.5 | 25.6 | 22.6 | 22.6 | 22.5r | 22.6r | 22.1 | 23.9r | 26.6r | 27.9 |
| Old Scrap | 6.1 | 5.3 | 6.3 | 6.7 | 6.8 | 7.1 | 10.7 | 15.0 | 16.0 | 16.9 | 18.0 | 16.4 | 17.3 | 18.0 | 20.1 | 20.0r | 20.2r | 22.5 | 22.6 | 23.8r | 25.3 |
| **Total (Table 2, Item 5)** | **19.0** | **16.8** | **17.0** | **19.7** | **21.1** | **21.1** | **28.1** | **35.7** | **37.9** | **39.8** | **42.5** | **38.9** | **42.9** | **40.6** | **42.7** | **42.5r** | **42.8r** | **44.6** | **46.5r** | **50.4** | **53.2** |
| Copper Recovered From All Scrap | | | | | | | | | | | | | | | | | | | | | |
| New Scrap | 817.8 | 745.7 | 763.2 | 867.4 | 916.2 | 878.2 | 611.0 | 736.8 | 753.1 | 813.3 | 971.5 | 851.1 | 885.3 | 709.9 | 731.3 | 731.5r | 716.2r | 722.3 | 776.0r | 865.1r | 905.3 |
| Old Scrap | 692.1 | 626.7 | 555.0 | 560.9 | 582.4 | 573.7 | 450.8 | 496.9 | 533.8 | 580.2 | 621.3 | 620.9 | 621.0 | 575.2 | 575.6 | 573.6r | 577.8r | 645.0 | 648.4r | 680.7r | 724.8 |
| **Total Copper Recovered (Table 2, Item 6)** | **1,509.9** | **1,372.4** | **1,318.2** | **1,428.3** | **1,498.6** | **1,451.9** | **1,061.8** | **1,233.7** | **1,286.9** | **1,393.5** | **1,592.8** | **1,472.0** | **1,506.3** | **1,285.1** | **1,306.9** | **1,305.1r** | **1,294.0r** | **1,367.3** | **1,424.4r** | **1,545.8r** | **1,630.1** |

Sources: U.S. Department of the Interior, Bureau of Mines; ABMS.
p - preliminary r - revised

# Table 2, Item 9.

## Consumption of copper scrap in the United States

COPPER CONTENT, thousands of short tons

| | 1969 | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 | 1989p |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Consumption of Copper Scrap by: | | | | | | | | | | | | | | | | | | | | | |
| Brass Mills | 516.6 | 446.5 | 496.6 | 578.4 | 612.5 | 563.0 | 406.3 | 519.3 | 531.9 | 541.7 | 608.0 | 532.3 | 559.3 | 448.2 | 540.9 | 583.8 | 529.2 | 562.8 | 605.9r | 671.2r | 741.6 |
| Ingot Makers | 290.3 | 241.4 | 257.9 | 250.5 | 236.7 | 215.0 | 164.0 | 173.0 | 195.0 | 205.5 | 238.2 | 214.0 | 213.0 | 173.2 | 176.4 | 219.5 | 202.4 | 200.6 | 201.6 | 213.2r | 205.3 |
| Foundries | 147.4 | 129.7 | 113.4 | 121.7 | 122.7 | 115.4 | 90.9 | 95.7 | 101.2 | 105.2 | 113.0 | 87.0 | 84.7 | 72.1 | 74.3 | 84.2 | 78.7 | 79.9 | 80.3 | 82.7r | 79.2 |
| Powder Plants | 16.5 | 12.2 | 16.5 | 16.0 | 17.3 | 17.7 | 11.6 | 16.8 | 18.3 | 18.5 | 18.1 | 12.8 | 12.9 | 10.1 | 13.2 | 13.1 | 12.2 | 11.9 | 12.8 | 13.1r | 12.6 |
| Other Industries [a] | 67.0 | 65.0 | 63.2 | 76.4 | 65.3 | 56.9 | 57.5 | 77.7 | 88.1 | 100.5 | 107.9 | 102.1 | 104.2 | 66.1 | 59.3 | 66.6 | 61.7 | 64.7 | 66.6 | 68.2r | 65.7 |
| **TOTAL COPPER CONSUMED** | **1,037.8** | **894.8** | **947.6** | **1,043.0** | **1,054.5** | **968.0** | **730.3** | **882.5** | **934.5** | **971.4** | **1,085.2** | **948.2** | **974.1** | **769.7** | **864.1** | **967.2** | **884.2** | **919.9** | **967.2r** | **1,048.4r** | **1,104.4** |

Sources: U.S. Department of the Interior, Bureau of Mines; U.S. Department of Commerce, Bureau of the Census; ABMS.
p - preliminary r - revised
(a) - Chemical, steel, aluminum and other industries.

# Table 3

## Consumption of metals by wire rod mills, brass mills, ingot makers, foundries, powder plants and other industries

| | METAL CONTENT, thousands of short tons | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1969 | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 | 1989p |
| (1) Consumption of Refined Copper (Table 1, Item 16) | 2,150.2 | 2,050.5 | 2,021.0 | 2,237.6 | 2,448.3 | 2,203.5 | 1,542.3 | 1,997.5 | 2,193.2 | 2,421.7 | 2,386.0 | 2,058.8 | 2,237.1 | 1,834.4 | 1,996.8 | 2,339.9 | 2,158.3 | 2,314.8 | 2,344.3r | 2,431.6r | 2,430.7 |
| (2) Consumption of Copper in Scrap (Table 2, Item 9) | 1,037.8 | 894.8 | 947.6 | 1,043.0 | 1,054.5 | 968.0 | 730.3 | 982.5 | 934.5 | 971.4 | 1,085.2 | 948.2 | 974.1 | 769.7 | 864.1 | 967.2 | 884.2 | 919.9 | 967.2r | 1,048.4r | 1,104.4 |
| **(3) Total Copper Consumed (page 15)** | **3,188.0** | **2,945.3** | **2,968.6** | **3,280.6** | **3,502.8** | **3,171.5** | **2,272.6** | **2,880.0** | **3,127.7** | **3,393.1** | **3,471.2** | **3,007.0** | **3,211.2** | **2,604.1** | **2,860.9** | **3,307.1** | **3,042.5** | **3,234.7** | **3,311.5r** | **3,480.0r** | **3,535.1** |
| (4) Consumption of Zinc | 376.3 | 288.1 | 316.3 | 387.0 | 381.0 | 347.2 | 234.7 | 323.1 | 328.8 | 347.8 | 358.9 | 298.1 | 313.7 | 246.6 | 302.1 | 353.3 | 286.7 | 293.6 | 323.6 | 340.9r | 318.4 |
| (5) Consumption of Lead | 33.7 | 27.4 | 25.6 | 26.1 | 28.8 | 28.1 | 19.7 | 26.0 | 30.0 | 30.1 | 30.8 | 25.7 | 26.0 | 22.4 | 25.3 | 30.8 | 27.5 | 27.5 | 28.5 | 30.1r | 28.6 |
| (6) Consumption of Tin | 19.4 | 15.9 | 15.2 | 22.6 | 16.3 | 16.2 | 11.7 | 14.4 | 16.7 | 16.4 | 16.4 | 14.2 | 14.5 | 11.7 | 12.4 | 15.2 | 13.9 | 13.8 | 13.9 | 14.8r | 14.1 |
| (7) Consumption of Nickel | 10.1 | 10.3 | 11.5 | 11.2 | 17.2 | 12.0 | 12.0 | 9.7 | 8.1 | 7.4 | 11.2 | 10.6 | 14.3 | 5.8 | 8.9 | 10.3 | 8.5 | 8.8 | 9.8 | 10.3 | 9.6 |
| **(8) Total Alloying Metal Consumed (page 16)** | **439.5** | **341.7** | **368.6** | **446.9** | **443.3** | **403.5** | **278.1** | **373.2** | **383.6** | **401.7** | **417.3** | **348.6** | **368.5** | **286.5** | **348.7** | **409.6** | **336.6** | **343.7** | **375.8** | **396.1r** | **370.7** |
| **(9) Total Metal Consumed** | **3,627.5** | **3,287.0** | **3,337.2** | **3,727.5** | **3,946.1** | **3,575.0** | **2,550.7** | **3,253.2** | **3,511.3** | **3,794.8** | **3,888.5** | **3,355.6** | **3,579.7** | **2,890.6** | **3,209.6** | **3,716.7** | **3,379.1** | **3,578.4** | **3,687.3r** | **3,876.1r** | **3,905.8** |
| (10) Ingot Consumed (page 17) [a] | 336.6 | 256.8 | 276.4 | 301.3 | 300.0 | 284.7 | 194.3 | 236.5 | 258.2 | 256.6 | 266.2 | 235.6 | 239.6 | 191.8 | 197.5 | 205.0 | 190.2 | 196.1 | 198.3r | 204.5r | 196.7 |
| (11) Ingot Stocks & Other (page 17) [a,b] | –43.6 | –55.9 | –56.6 | –32.1 | –10.9 | –7.2 | –24.7 | –7.2 | –14.2 | –21.4 | –44.0 | –41.2 | –43.0 | –41.1 | –46.1 | –100.2 | –89.8 | –81.3 | –80.5r | –90.4r | –87.2 |
| **(12) Net Metal Consumed (page 17)** | **3,583.9** | **3,231.1** | **3,280.6** | **3,695.4** | **3,935.2** | **3,567.8** | **2,526.0** | **3,246.0** | **3,497.1** | **3,773.4** | **3,844.5** | **3,314.4** | **3,536.7** | **2,849.5** | **3,163.5** | **3,616.5** | **3,289.3** | **3,497.1** | **3,606.8r** | **3,785.7r** | **3,818.6** |
| (13) Wire Rod Mills - Net Metal Consumed (page 17) | 1,295.0 | 1,338.7 | 1,324.9 | 1,526.3 | 1,672.3 | 1,474.3 | 1,061.3 | 1,364.0 | 1,511.2 | 1,672.7 | 1,653.0 | 1,442.8 | 1,597.9 | 1,359.0 | 1,399.8 | 1,658.6 | 1,545.1 | 1,644.6 | 1,757.0r | 1,844.8r | 1,876.1 |
| (14) Wire Rod & Wire Mills - Metal Stocks & Other | –33.0 | –116.7 | –68.4 | –169.8 | –206.3 | –148.8 | –22.8 | –156.0 | –82.7 | –165.2 | –106.0 | –54.3 | –160.4 | –44.0 | –73.3 | –153.6 | –81.1 | –144.6 | –96.0r | –179.8r | –198.1 |
| (15) Wire Mills - Metal Contained in Products Supplied (Table 4, Item 10) | 1,262.0 | 1,222.0 | 1,256.5 | 1,356.5 | 1,466.0 | 1,325.5 | 1,038.5 | 1,208.0 | 1,428.5 | 1,507.5 | 1,547.0 | 1,388.5 | 1,437.5 | 1,315.0 | 1,326.5 | 1,505.0 | 1,464.0 | 1,500.0 | 1,661.0r | 1,665.0r | 1,678.0 |
| (16) Brass Mills - Net Metal Consumed (page 17) | 1,657.3 | 1,371.4 | 1,448.5 | 1,615.4 | 1,700.2 | 1,577.6 | 1,067.2 | 1,407.3 | 1,464.6 | 1,549.6 | 1,619.3 | 1,380.6 | 1,461.1 | 1,116.4 | 1,383.3 | 1,555.8 | 1,363.5 | 1,463.2 | 1,453.4r | 1,533.5r | 1,552.1 |
| (17) Brass Mills - Metal Stocks & Other | –102.3 | –118.4 | –106.5 | –111.4 | –63.7 | –167.1 | –36.2 | –113.3 | –91.6 | –95.1 | –97.3 | –114.1 | –146.1 | –98.9 | –191.8 | –185.3 | –151.5 | –209.2r | –53.9r | –99.5r | –176.6 |
| (18) Brass Mills - Metal Contained in Products Supplied (Table 4, Item 16) | 1,555.0 | 1,253.0 | 1,342.0 | 1,504.0 | 1,636.5 | 1,410.5 | 1,031.0 | 1,294.0 | 1,373.0 | 1,454.5 | 1,522.0 | 1,266.5 | 1,315.0 | 1,017.5 | 1,191.5 | 1,370.5 | 1,212.0 | 1,254.0r | 1,399.5r | 1,434.0r | 1,375.5 |
| (19) Foundries - Net Metal Consumed (page 17) | 468.1 | 378.0 | 364.6 | 394.0 | 404.9 | 380.3 | 276.0 | 299.4 | 326.2 | 346.2 | 353.5 | 297.5 | 292.4 | 235.7 | 243.9 | 261.3 | 242.4 | 245.9 | 247.8 | 255.3r | 244.3 |
| (20) Foundries - Metal Stocks & Other | –28.6 | 13.0 | 1.9 | –2.0 | 5.1 | –14.3 | 39.5 | 3.6 | –5.2 | –15.2 | 9.5 | –11.5 | –10.4 | –13.7 | 5.1 | –9.3 | –7.4 | –7.9 | –9.3 | 2.2r | 4.2 |
| (21) Foundries - Metal Contained in Products Supplied (Table 4, Item 17) | 439.5 | 391.0 | 366.5 | 392.0 | 410.0 | 366.0 | 315.5 | 303.0 | 321.0 | 331.0 | 363.0 | 286.0 | 282.0 | 222.0 | 249.0 | 252.0 | 235.0 | 238.0 | 238.5 | 257.5r | 248.5 |
| (22) Powder Plants - Net Metal Consumed (page 17) | 38.0 | 29.7 | 32.3 | 34.6 | 41.3 | 36.6 | 21.8 | 34.4 | 36.5 | 37.4 | 36.6 | 26.0 | 26.1 | 21.7 | 26.8 | 26.9 | 25.0 | 24.5 | 26.2 | 26.8r | 25.9 |
| (23) Powder Plants - Metal Stocks & Other | –7.5 | –6.2 | –6.3 | –7.6 | –9.3 | –2.1 | 1.2 | –1.9 | –4.5 | –9.4 | –9.6 | –7.0 | –4.1 | –4.7 | –7.3 | –5.4 | –6.5 | –7.0 | –6.7 | –4.8r | –5.4 |
| (24) Powder Plants - Metal Contained in Products Supplied (Table 4, Item 18) | 30.5 | 23.5 | 26.0 | 27.0 | 32.0 | 34.5 | 23.0 | 32.5 | 32.0 | 28.0 | 27.0 | 19.0 | 22.0 | 17.0 | 19.5 | 21.5 | 18.5 | 17.5 | 19.5 | 22.0 | 20.5 |
| (25) Other Industries - Net Metal Consumed (page 17) [c] | 125.5 | 113.3 | 110.3 | 125.1 | 116.5 | 99.0 | 99.7 | 140.9 | 158.6 | 167.5 | 182.1 | 167.5 | 159.2 | 116.7 | 109.7 | 113.9 | 113.3 | 118.9 | 122.4r | 125.3r | 120.2 |

Sources: U.S. Department of the Interior, Bureau of Mines; ABMS.

p - preliminary r - revised

(a) - Ingot makers consume refined copper, scrap copper and alloying metal, and ship to foundries, brass mills, powder plants and other industries.

(b) - The difference between the copper and alloying metal consumed by ingot makers and the ingot consumed by the customers of the ingot makers. This difference consists of melting and other losses in producing ingot, stock changes, and other factors.

(c) - Chemical, steel, aluminum and other industries.

# **Table 3,** Item 3.

**Consumption of copper by wire rod mills, brass mills, ingot makers, foundries, powder plants and other industries**

| | COPPER CONTENT, thousands of short tons | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1969 | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 | 1989p |
| Consumption of Copper by | | | | | | | | | | | | | | | | | | | | | |
| Wire Rod Mills - Refined | 1,295.0 | 1,338.7 | 1,324.9 | 1,526.3 | 1,672.3 | 1,474.3 | 1,061.3 | 1,364.0 | 1,511.2 | 1,672.7 | 1,653.0 | 1,442.8 | 1,597.9 | 1,359.0 | 1,399.8 | 1,658.6 | 1,545.1 | 1,644.6 | 1,757.0r | 1,844.8r | 1,876.1 |
| Brass Mills [a] | | | | | | | | | | | | | | | | | | | | | |
| Refined | 799.1 | 660.6 | 655.8 | 667.2 | 714.4 | 670.2 | 439.0 | 584.8 | 628.6 | 682.6 | 672.6 | 564.0 | 591.1 | 433.4 | 551.4 | 635.1 | 566.6 | 622.7 | 538.6r | 536.7r | 506.8 |
| Scrap | 516.6 | 446.5 | 496.6 | 578.4 | 612.5 | 563.0 | 406.3 | 519.3 | 531.9 | 541.7 | 608.0 | 532.3 | 559.3 | 448.2 | 540.9 | 583.8 | 529.2 | 562.8 | 605.9r | 671.2r | 741.6 |
| Total | 1,315.7 | 1,107.1 | 1,152.4 | 1,245.6 | 1,326.9 | 1,233.2 | 845.3 | 1,104.1 | 1,160.5 | 1,224.3 | 1,280.6 | 1,096.3 | 1,150.4 | 881.6 | 1,092.3 | 1,218.9 | 1,095.8 | 1,185.5 | 1,144.5r | 1,207.9r | 1,248.4 |
| Ingot Makers [b] | | | | | | | | | | | | | | | | | | | | | |
| Refined | 6.7 | 6.8 | 4.5 | 6.0 | 6.1 | 9.2 | 4.5 | 7.5 | 6.6 | 8.2 | 6.9 | 5.5 | 6.0 | 4.8 | 4.9 | 7.6 | 5.9 | 5.8 | 5.8 | 6.2r | 5.9 |
| Scrap | 290.3 | 241.4 | 257.9 | 250.5 | 236.7 | 215.0 | 164.0 | 173.0 | 195.0 | 205.5 | 238.2 | 214.0 | 213.0 | 173.2 | 176.4 | 219.5 | 202.4 | 200.6 | 201.6 | 213.2r | 205.3 |
| Total | 297.0 | 248.2 | 262.4 | 256.5 | 242.8 | 224.2 | 168.5 | 180.5 | 201.6 | 213.7 | 245.1 | 219.5 | 219.0 | 178.0 | 181.3 | 227.1 | 208.3 | 206.4 | 207.4 | 219.4r | 211.2 |
| Foundries [a] | | | | | | | | | | | | | | | | | | | | | |
| Refined | 23.8 | 23.7 | 17.5 | 17.9 | 30.6 | 28.7 | 21.7 | 21.0 | 22.5 | 22.1 | 19.9 | 18.2 | 17.7 | 15.1 | 15.6 | 17.7 | 15.9 | 16.2 | 16.3 | 16.7r | 16.0 |
| Scrap | 147.4 | 129.7 | 113.4 | 121.7 | 122.7 | 115.4 | 90.9 | 95.7 | 101.2 | 105.2 | 113.0 | 87.0 | 84.7 | 72.1 | 74.3 | 84.2 | 78.7 | 79.9 | 80.3 | 82.7r | 79.2 |
| Total | 171.2 | 153.4 | 130.9 | 139.6 | 153.3 | 144.1 | 112.6 | 116.7 | 123.7 | 127.3 | 132.9 | 105.2 | 102.4 | 87.2 | 89.9 | 101.9 | 94.6 | 96.1 | 96.6 | 99.4r | 95.2 |
| Powder Plants [a] | | | | | | | | | | | | | | | | | | | | | |
| Refined | 9.8 | 6.5 | 7.2 | 9.5 | 12.7 | 12.0 | 6.8 | 11.8 | 11.3 | 11.5 | 11.6 | 8.3 | 8.3 | 7.5 | 8.5 | 8.7 | 8.1 | 7.9 | 8.5 | 8.7r | 8.4 |
| Scrap | 16.5 | 12.2 | 16.5 | 16.0 | 17.3 | 17.7 | 11.6 | 16.8 | 18.3 | 18.5 | 18.1 | 12.8 | 12.9 | 10.1 | 13.2 | 13.1 | 12.2 | 11.9 | 12.8 | 13.1r | 12.6 |
| Total | 26.3 | 18.7 | 23.7 | 25.5 | 30.0 | 29.7 | 18.4 | 28.6 | 29.6 | 30.0 | 29.7 | 21.1 | 21.2 | 17.6 | 21.7 | 21.8 | 20.3 | 19.8 | 21.3 | 21.8r | 21.0 |
| Other Industries [a] [c] | | | | | | | | | | | | | | | | | | | | | |
| Refined | 15.8 | 14.2 | 11.1 | 10.7 | 12.2 | 9.1 | 9.0 | 8.4 | 13.0 | 24.6 | 22.0 | 20.0 | 16.1 | 14.6 | 16.6 | 12.2 | 16.7 | 17.6 | 18.1 | 18.5r | 17.5 |
| Scrap | 67.0 | 65.0 | 63.2 | 76.4 | 65.3 | 56.9 | 57.5 | 77.7 | 88.1 | 100.5 | 107.9 | 102.1 | 104.2 | 66.1 | 59.3 | 66.6 | 61.7 | 64.7 | 66.6 | 68.2r | 65.7 |
| Total | 82.8 | 79.2 | 74.3 | 87.1 | 77.5 | 66.0 | 66.5 | 86.1 | 101.1 | 125.1 | 129.9 | 122.1 | 120.3 | 80.7 | 75.9 | 78.8 | 78.4 | 82.3 | 84.7 | 86.7r | 83.2 |
| **All Industries** | | | | | | | | | | | | | | | | | | | | | |
| **Refined (Table 1, Item 16)** | **2,150.2** | **2,050.5** | **2,021.0** | **2,237.6** | **2,448.3** | **2,203.5** | **1,542.3** | **1,997.5** | **2,193.2** | **2,421.7** | **2,386.0** | **2,058.8** | **2,237.1** | **1,834.4** | **1,996.8** | **2,339.9** | **2,158.3** | **2,314.8** | **2,344.3r** | **2,431.6r** | **2,430.7** |
| **Scrap (Table 2, Item 9)** | **1,037.8** | **894.8** | **947.6** | **1,043.0** | **1,054.5** | **968.0** | **730.3** | **882.5** | **934.5** | **971.4** | **1,085.2** | **948.2** | **974.1** | **769.7** | **864.1** | **967.2** | **884.2** | **919.9** | **967.2r** | **1,048.4r** | **1,104.4** |
| **TOTAL COPPER CONSUMED (Table 3, Item 3)** | **3,188.0** | **2,945.3** | **2,968.6** | **3,280.6** | **3,502.8** | **3,171.5** | **2,272.6** | **2,880.0** | **3,127.7** | **3,393.1** | **3,471.2** | **3,007.0** | **3,211.2** | **2,604.1** | **2,860.9** | **3,307.1** | **3,042.5** | **3,234.7** | **3,311.5r** | **3,480.0r** | **3,535.1** |

Sources: U.S. Department of the Interior, Bureau of Mines; ABMS.

p - preliminary r - revised

(a) - Direct consumption only; not including consumption of copper in ingots from ingot makers.

(b) - Ingot makers consume refined copper, scrap copper and alloying metal, and ship to foundries, brass mills, powder plants and other industries.

(c) - Chemical, steel, aluminum and other industries.

# Table 3, Item 8.

## Consumption of alloying metal by brass mills, ingot makers, foundries and powder plants

| | ALLOYING METAL CONTENT, thousands of short tons | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1969 | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 | 1989p |
| Consumption of Alloying Metal by | | | | | | | | | | | | | | | | | | | | | |
| Brass Mills [a] | | | | | | | | | | | | | | | | | | | | | |
| Zinc-Slab | 158.7 | 112.2 | 134.8 | 177.4 | 163.6 | 167.6 | 104.8 | 153.1 | 154.5 | 162.2 | 167.0 | 138.0 | 147.9 | 111.7 | 130.6 | 151.5 | 120.1 | 123.8 | 138.7 | 146.1 | 135.7 |
| Zinc in Scrap | 156.6 | 128.8 | 129.8 | 156.2 | 149.2 | 132.6 | 94.7 | 124.5 | 125.5 | 139.8 | 147.3 | 122.1 | 122.3 | 98.9 | 128.0 | 148.5 | 117.7 | 121.3 | 135.9 | 143.2 | 133.0 |
| Lead-Refined | 3.7 | 2.5 | 3.1 | 3.8 | 4.9 | 4.1 | 2.0 | 3.5 | 3.3 | 3.7 | 3.9 | 2.7 | 2.8 | 1.6 | 3.2 | 3.7 | 3.0 | 3.1 | 3.5 | 3.7 | 3.4 |
| Lead in Scrap | 4.7 | 3.2 | 2.9 | 3.6 | 3.6 | 3.3 | 2.3 | 3.4 | 4.5 | 3.8 | 4.0 | 3.3 | 3.1 | 2.4 | 3.4 | 3.9 | 3.2 | 3.3 | 3.7 | 3.9 | 3.6 |
| Tin-Refined | 1.5 | 1.2 | 1.1 | 1.0 | 1.1 | 1.1 | 0.6 | 0.8 | 0.7 | 0.6 | 0.8 | 0.8 | 0.8 | 0.4 | 0.5 | 0.6 | 0.5 | 0.5 | 0.5 | 0.6 | 0.5 |
| Tin in Scrap | 0.7 | 0.5 | 0.4 | 0.5 | 0.5 | 0.5 | 0.3 | 0.3 | 0.6 | 0.5 | 0.5 | 0.4 | 0.3 | 0.4 | 0.5 | 0.6 | 0.5 | 0.5 | 0.5 | 0.6 | 0.5 |
| Nickel-Refined | 5.9 | 5.1 | 6.1 | 6.5 | 5.4 | 7.1 | 7.5 | 5.5 | 4.6 | 4.8 | 7.6 | 8.4 | 11.3 | 3.5 | 5.3 | 6.1 | 5.0 | 5.2 | 5.8 | 6.1 | 5.7 |
| Nickel in Scrap | 3.3 | 4.6 | 4.7 | 4.1 | 10.5 | 4.2 | 4.1 | 3.8 | 3.1 | 2.2 | 3.1 | 1.8 | 2.6 | 1.9 | 3.2 | 3.7 | 3.0 | 3.1 | 3.5 | 3.7 | 3.4 |
| Total | 335.1 | 258.1 | 282.9 | 353.1 | 358.8 | 320.5 | 216.3 | 294.9 | 296.8 | 317.8 | 334.2 | 277.5 | 291.1 | 220.8 | 274.7 | 318.6 | 253.0 | 260.8 | 292.1 | 307.9 | 285.8 |
| Ingot Makers | | | | | | | | | | | | | | | | | | | | | |
| Zinc-Slab | 13.6 | 9.9 | 10.4 | 7.1 | 6.9 | 8.2 | 6.6 | 7.7 | 8.3 | 7.3 | 7.5 | 18.9 | 22.2 | 14.6 | 18.1 | 22.7 | 20.8 | 20.6 | 20.7 | 21.9r | 21.1 |
| Zinc in Scrap | 34.5 | 26.7 | 31.2 | 33.9 | 29.4 | 28.2 | 20.8 | 26.8 | 29.1 | 25.0 | 25.2 | 9.9 | 12.2 | 14.2 | 17.6 | 22.1 | 20.3 | 20.1 | 20.2 | 21.4r | 20.6 |
| Lead in Scrap | 20.1 | 16.1 | 16.8 | 16.2 | 18.0 | 18.1 | 13.4 | 16.9 | 19.7 | 19.2 | 19.4 | 17.1 | 17.5 | 16.5 | 16.8 | 21.0 | 19.3 | 19.1 | 19.2 | 20.3r | 19.5 |
| Tin in Scrap | 14.1 | 11.2 | 11.5 | 19.1 | 12.5 | 12.5 | 9.3 | 11.4 | 13.3 | 12.4 | 12.5 | 11.0 | 11.3 | 9.2 | 9.4 | 11.8 | 10.8 | 10.7 | 10.8 | 11.4r | 11.0 |
| Nickel in Scrap | 0.9 | 0.6 | 0.7 | 0.6 | 1.3 | 0.7 | 0.4 | 0.4 | 0.4 | 0.4 | 0.5 | 0.4 | 0.4 | 0.4 | 0.4 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| Total | 83.2 | 64.5 | 70.6 | 76.9 | 68.1 | 67.7 | 50.5 | 63.2 | 70.8 | 64.3 | 65.1 | 57.3 | 63.6 | 54.9 | 62.3 | 78.1 | 71.7 | 71.0 | 71.4 | 75.5r | 72.7 |
| Foundries [a] | | | | | | | | | | | | | | | | | | | | | |
| Zinc-Slab | 6.0 | 4.6 | 4.5 | 6.8 | 6.0 | 4.4 | 3.1 | 4.2 | 4.5 | 4.9 | 4.0 | 3.1 | 3.2 | 2.4 | 2.5 | 2.8 | 2.6 | 2.6 | 2.7 | 2.8r | 2.7 |
| Zinc in Scrap | 3.4 | 3.2 | 2.7 | 2.8 | 2.7 | 3.5 | 3.0 | 4.1 | 4.2 | 5.6 | 5.2 | 4.2 | 4.0 | 3.2 | 3.3 | 3.7 | 3.4 | 3.4 | 3.5 | 3.6r | 3.4 |
| Lead in Scrap | 5.2 | 5.6 | 2.8 | 2.5 | 2.3 | 2.6 | 2.0 | 2.2 | 2.5 | 3.4 | 3.5 | 2.6 | 2.6 | 1.9 | 1.9 | 2.2 | 2.0 | 2.0 | 2.1 | 2.2r | 2.1 |
| Tin in Scrap | 1.8 | 2.0 | 1.1 | 1.0 | 1.0 | 1.1 | 0.9 | 0.9 | 1.1 | 1.6 | 1.6 | 1.3 | 1.4 | 1.1 | 1.3 | 1.5 | 1.4 | 1.4 | 1.4 | 1.5r | 1.4 |
| Total | 16.4 | 15.4 | 11.1 | 13.1 | 12.0 | 11.6 | 9.0 | 11.4 | 12.3 | 15.5 | 14.3 | 11.2 | 11.2 | 8.6 | 9.0 | 10.2 | 9.4 | 9.4 | 9.7 | 10.1r | 9.6 |
| Powder Plants [a] | | | | | | | | | | | | | | | | | | | | | |
| Zinc-Slab | 1.2 | 1.0 | 0.7 | 0.7 | 1.1 | 1.3 | 0.8 | 1.2 | 1.6 | 1.6 | 1.6 | 1.1 | 1.1 | 0.9 | 1.1 | 1.1 | 1.0 | 1.0 | 1.1 | 1.1 | 1.1 |
| Zinc in Scrap | 2.3 | 1.7 | 2.2 | 2.1 | 2.1 | 1.4 | 0.9 | 1.5 | 1.1 | 1.4 | 1.1 | 0.8 | 0.8 | 0.7 | 0.9 | 0.9 | 0.8 | 0.8 | 0.8 | 0.8r | 0.8 |
| Tin-Refined | 1.3 | 1.0 | 1.1 | 1.0 | 1.2 | 1.0 | 0.6 | 1.0 | 1.0 | 1.1 | 1.0 | 0.7 | 0.7 | 0.6 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7r | 0.7 |
| Total | 4.8 | 3.7 | 4.0 | 3.8 | 4.4 | 3.7 | 2.3 | 3.7 | 3.7 | 4.1 | 3.7 | 2.6 | 2.6 | 2.2 | 2.7 | 2.7 | 2.5 | 2.5 | 2.6 | 2.6r | 2.6 |
| **All Industries** | | | | | | | | | | | | | | | | | | | | | |
| **Zinc-Slab** | **179.5** | **127.7** | **150.4** | **192.0** | **197.6** | **181.5** | **115.3** | **166.2** | **168.9** | **176.0** | **180.1** | **161.1** | **174.4** | **129.6** | **152.3** | **178.1** | **144.5** | **148.0** | **163.2** | **171.9r** | **160.6** |
| **Zinc in Scrap** | **196.8** | **160.4** | **165.9** | **195.0** | **183.4** | **165.7** | **119.4** | **156.9** | **159.9** | **171.8** | **178.8** | **137.0** | **139.3** | **117.0** | **149.8** | **175.2** | **142.2** | **145.6** | **160.4** | **169.0r** | **157.8** |
| **Lead-Refined** | **3.7** | **2.5** | **3.1** | **3.8** | **4.9** | **4.1** | **2.0** | **3.5** | **3.3** | **3.7** | **3.9** | **2.7** | **2.8** | **1.6** | **3.2** | **3.7** | **3.0** | **3.1** | **3.5** | **3.7** | **3.4** |
| **Lead in Scrap** | **30.0** | **24.9** | **22.5** | **22.3** | **23.9** | **24.0** | **17.7** | **22.5** | **26.7** | **26.4** | **26.9** | **23.0** | **23.2** | **20.8** | **22.1** | **27.1** | **24.5** | **24.4** | **25.0** | **26.4r** | **25.2** |
| **Tin-Refined** | **2.8** | **2.2** | **2.2** | **2.0** | **2.3** | **2.1** | **1.2** | **1.8** | **1.7** | **1.9** | **1.8** | **1.5** | **1.5** | **1.0** | **1.2** | **1.3** | **1.2** | **1.2** | **1.2** | **1.3r** | **1.2** |
| **Tin in Scrap** | **16.6** | **13.7** | **13.0** | **20.6** | **14.0** | **14.1** | **10.5** | **12.6** | **15.0** | **14.5** | **14.6** | **12.7** | **13.0** | **10.7** | **11.2** | **13.9** | **12.7** | **12.6** | **12.7** | **13.5r** | **12.9** |
| **Nickel-Refined** | **5.9** | **5.1** | **6.1** | **6.5** | **5.4** | **7.1** | **7.5** | **5.5** | **4.6** | **4.8** | **7.6** | **8.4** | **11.3** | **3.5** | **5.3** | **6.1** | **5.0** | **5.2** | **5.8** | **6.1** | **5.7** |
| **Nickel in Scrap** | **4.2** | **5.2** | **5.4** | **4.7** | **11.8** | **4.9** | **4.5** | **4.2** | **3.5** | **2.6** | **3.6** | **2.2** | **3.0** | **2.3** | **3.6** | **4.2** | **3.5** | **3.6** | **4.0** | **4.2** | **3.9** |
| **TOTAL ALLOYING METAL CONSUMED (Table 3, Item 8)** | **439.5** | **341.7** | **368.6** | **446.9** | **443.3** | **403.5** | **278.1** | **373.2** | **383.6** | **401.7** | **417.3** | **348.6** | **368.5** | **286.5** | **348.7** | **409.6** | **336.6** | **343.7** | **375.8** | **396.1r** | **370.7** |

Sources: U.S. Department of the Interior, Bureau of Mines; ABMS.

p - preliminary r - revised

(a) - Direct consumption only; not including consumption of alloying metal in ingots from ingot makers.

# **Table 3,** Item 12.

**Net consumption of metals by wire rod mills, brass mills, foundries, powder plants, and other industries**

| | METAL CONTENT, thousands of short tons | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1969 | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 | 1989p |
| Net Metal Consumed by | | | | | | | | | | | | | | | | | | | | | |
| Wire Rod Mills-Copper (Table 3, Item 13) | 1,295.0 | 1,338.7 | 1,324.9 | 1,526.3 | 1,672.3 | 1,474.3 | 1,061.3 | 1,364.0 | 1,511.2 | 1,672.7 | 1,653.0 | 1,442.8 | 1,597.9 | 1,359.0 | 1,399.8 | 1,658.6 | 1,545.1 | 1,644.6 | 1,757.0r | 1,844.8r | 1,876.1 |
| Brass Mills | | | | | | | | | | | | | | | | | | | | | |
| Copper | 1,315.7 | 1,107.1 | 1,152.4 | 1,245.6 | 1,326.9 | 1,233.2 | 845.3 | 1,104.1 | 1,160.5 | 1,224.3 | 1,280.6 | 1,096.3 | 1,150.4 | 881.6 | 1,092.3 | 1,218.9 | 1,095.8 | 1,185.5 | 1,144.5r | 1,207.9r | 1,248.4 |
| Alloy | 335.1 | 258.1 | 282.9 | 353.1 | 358.8 | 320.5 | 216.3 | 294.9 | 296.8 | 317.8 | 334.2 | 277.5 | 291.1 | 220.8 | 274.7 | 318.6 | 253.0 | 260.8 | 292.1 | 307.9 | 285.8 |
| Ingot | 6.5 | 6.2 | 13.2 | 16.7 | 14.5 | 23.9 | 5.6 | 8.3 | 7.3 | 7.5 | 4.5 | 6.8 | 19.6 | 14.0 | 16.3 | 18.3 | 14.7 | 16.9 | 16.8r | 17.7r | 17.9 |
| Total (Table 3, Item 16) | 1,657.3 | 1,371.4 | 1,448.5 | 1,615.4 | 1,700.2 | 1,577.6 | 1,067.2 | 1,407.3 | 1,464.6 | 1,549.6 | 1,619.3 | 1,380.6 | 1,461.1 | 1,116.4 | 1,383.3 | 1,555.8 | 1,363.5 | 1,463.2 | 1,453.4r | 1,533.5r | 1,552.1 |
| Foundries | | | | | | | | | | | | | | | | | | | | | |
| Copper | 171.2 | 153.4 | 130.9 | 139.6 | 153.3 | 144.1 | 112.6 | 116.7 | 123.7 | 127.3 | 132.9 | 105.2 | 102.4 | 87.2 | 89.9 | 101.9 | 94.6 | 96.1 | 96.6 | 99.4r | 95.2 |
| Alloy | 16.4 | 15.4 | 11.1 | 13.1 | 12.0 | 11.6 | 9.0 | 11.4 | 12.3 | 15.5 | 14.3 | 11.2 | 11.2 | 8.6 | 9.0 | 10.2 | 9.4 | 9.4 | 9.7 | 10.1r | 9.6 |
| Ingot | 280.5 | 209.2 | 222.6 | 241.3 | 239.6 | 224.6 | 154.4 | 171.3 | 190.2 | 203.4 | 206.3 | 181.1 | 178.8 | 139.9 | 145.0 | 149.2 | 138.4 | 140.4 | 141.5 | 145.8r | 139.5 |
| Total (Table 3, Item 19) | 468.1 | 378.0 | 364.6 | 394.0 | 404.9 | 380.3 | 276.0 | 299.4 | 326.2 | 346.2 | 353.5 | 297.5 | 292.4 | 235.7 | 243.9 | 261.3 | 242.4 | 245.9 | 247.8 | 255.3r | 244.3 |
| Powder Plants | | | | | | | | | | | | | | | | | | | | | |
| Copper | 26.3 | 18.7 | 23.7 | 25.5 | 30.0 | 29.7 | 18.4 | 28.6 | 29.6 | 30.0 | 29.7 | 21.1 | 21.2 | 17.6 | 21.7 | 21.8 | 20.3 | 19.8 | 21.3 | 21.8r | 21.0 |
| Alloy | 4.8 | 3.7 | 4.0 | 3.8 | 4.4 | 3.7 | 2.3 | 3.7 | 3.7 | 4.1 | 3.7 | 2.6 | 2.6 | 2.2 | 2.7 | 2.7 | 2.5 | 2.5 | 2.6 | 2.6r | 2.6 |
| Ingot | 6.9 | 7.3 | 4.6 | 5.3 | 6.9 | 3.2 | 1.1 | 2.1 | 3.2 | 3.3 | 3.2 | 2.3 | 2.3 | 1.9 | 2.4 | 2.4 | 2.2 | 2.2 | 2.3 | 2.4 | 2.3 |
| Total (Table 3, Item 22) | 38.0 | 29.7 | 32.3 | 34.6 | 41.3 | 36.6 | 21.8 | 34.4 | 36.5 | 37.4 | 36.6 | 26.0 | 26.1 | 21.7 | 26.8 | 26.9 | 25.0 | 24.5 | 26.2 | 26.8r | 25.9 |
| Other Industries [a] | | | | | | | | | | | | | | | | | | | | | |
| Copper | 82.8 | 79.2 | 74.3 | 87.1 | 77.5 | 66.0 | 66.5 | 86.1 | 101.1 | 125.1 | 129.9 | 122.1 | 120.3 | 80.7 | 75.9 | 78.8 | 78.4 | 82.3 | 84.7 | 86.7r | 83.2 |
| Ingot | 42.7 | 34.1 | 36.0 | 38.0 | 39.0 | 33.0 | 33.2 | 54.8 | 57.5 | 42.4 | 52.2 | 45.4 | 38.9 | 36.0 | 33.8 | 35.1 | 34.9 | 36.6 | 37.7r | 38.6r | 37.0 |
| Total (Table 3, Item 25) | 125.5 | 113.3 | 110.3 | 125.1 | 116.5 | 99.0 | 99.7 | 140.9 | 158.6 | 167.5 | 182.1 | 167.5 | 159.2 | 116.7 | 109.7 | 113.9 | 113.3 | 118.9 | 122.4r | 125.3r | 120.2 |
| **All Industries** | | | | | | | | | | | | | | | | | | | | | |
| **Copper** | 2,891.0 | 2,697.1 | 2,706.2 | 3,024.1 | 3,260.0 | 2,947.3 | 2,104.1 | 2,699.5 | 2,926.1 | 3,179.4 | 3,226.1 | 2,787.5 | 2,992.2 | 2,426.1 | 2,679.6 | 3,080.0 | 2,834.2 | 3,028.3 | 3,104.1r | 3,260.6r | 3,323.9 |
| **Alloy** | 356.3 | 277.2 | 298.0 | 370.0 | 375.2 | 335.8 | 227.6 | 310.0 | 312.8 | 337.4 | 352.2 | 291.3 | 304.9 | 231.6 | 286.4 | 331.5 | 264.9 | 272.7 | 304.4 | 320.6r | 298.0 |
| **Ingot (Table 3, Item 10) [b]** | 336.6 | 256.8 | 276.4 | 301.3 | 300.0 | 284.7 | 194.3 | 236.5 | 258.2 | 256.6 | 266.2 | 235.6 | 239.6 | 191.8 | 197.5 | 205.0 | 190.2 | 196.1 | 198.3r | 204.5r | 196.7 |
| **NET METAL CONSUMED** | | | | | | | | | | | | | | | | | | | | | |
| **(Table 3, Item 12)** | 3,583.9 | 3,231.1 | 3,280.6 | 3,695.4 | 3,935.2 | 3,567.8 | 2,526.0 | 3,246.0 | 3,497.1 | 3,773.4 | 3,844.5 | 3,314.4 | 3,536.7 | 2,849.5 | 3,163.5 | 3,616.5 | 3,289.3 | 3,497.1 | 3,606.8r | 3,785.7r | 3,818.6 |

Sources: U.S. Department of the Interior, Bureau of Mines; ABMS.

p - preliminary r - revised

(a) - Chemical, steel, aluminum and other industries.

(b) - Total consumption of ingot shown here is less than the consumption of metal by ingot makers shown in the details of Table 3, Item 3 and Table 3, Item 8. The difference, shown as Ingot Stocks & Other in Table 3, is partially melting and other losses in the making of ingot.

# Table 4

## Supply of wire mill, brass mill, foundry and powder products and their consumption in the end-use markets

METAL CONTENT, millions of pounds

| | 1969 | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 | 1989p |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| (1) Bare Wire | 245 | 226 | 218 | 270 | 209 | 219 | 167 | 199 | 230 | 238 | 236 | 197 | 220 | 179 | 158 | 147 | 119 | 136 | 161 | 172 | 182 |
| (2) Communication Wire and Cable | 716 | 735 | 803 | 766 | 873 | 799 | 584 | 687 | 836 | 885 | 971 | 850 | 851 | 751 | 683 | 727 | 629 | 611 | 674r | 731r | 699 |
| (3) Building Wire | | 484 | 552 | 580 | 666 | 557 | 483 | 545 | 658 | 718 | 695 | 628 | 660 | 701 | 739 | 888 | 961 | 1,015 | 1,181r | 1,120r | 1,137 |
| (4) Magnet Wire | | 466 | 427 | 496 | 537 | 446 | 338 | 451 | 516 | 525 | 531 | 443 | 492 | 396 | 444 | 511 | 472 | 470 | 496r | 510r | 513 |
| (5) Power Cable | | 286 | 247 | 273 | 306 | 303 | 222 | 214 | 241 | 245 | 270 | 280 | 275 | 247 | 218 | 243 | 259 | 255 | 268r | 266r | 287 |
| (6) Apparatus Wire and Cordage | 1,563 | 135 | 137 | 169 | 185 | 177 | 139 | 161 | 196 | 202 | 202 | 205 | 189 | 157 | 199 | 227 | 203 | 203 | 231r | 213r | 215 |
| (7) Automotive Wire and Cable (except Magnet) | | 57 | 71 | 80 | 88 | 72 | 69 | 92 | 108 | 121 | 112 | 89 | 95 | 105 | 139 | 186 | 214 | 228 | 217 | 239 | 243 |
| (8) Other Insulated Wire and Cable | | 55 | 58 | 79 | 68 | 78 | 75 | 67 | 72 | 81 | 77 | 85 | 93 | 94 | 73 | 81 | 71 | 82 | 94r | 79r | 80 |
| (9) Total Insulated Wire and Cable | 2,279 | 2,218 | 2,295 | 2,443 | 2,723 | 2,432 | 1,910 | 2,217 | 2,627 | 2,777 | 2,858 | 2,580 | 2,655 | 2,451 | 2,495 | 2,863 | 2,809 | 2,864 | 3,161r | 3,158r | 3,174 |
| **(10) Total Wire Mill Products [a]** | **2,524** | **2,444** | **2,513** | **2,713** | **2,932** | **2,651** | **2,077** | **2,416** | **2,857** | **3,015** | **3,094** | **2,777** | **2,875** | **2,630** | **2,653** | **3,010** | **2,928** | **3,000** | **3,322r** | **3,330r** | **3,356** |
| (11) Strip, Sheet and Plate | 1,147 | 883 | 964 | 1,075 | 1,160 | 1,059 | 832 | 965 | 973 | 1,027 | 1,067 | 873 | 962 | 728 | 796 | 949 | 731 | 769r | 868r | 943r | 871 |
| (12) Mechanical Wire | 130 | 111 | 111 | 128 | 126 | 105 | 65 | 92 | 94 | 104 | 112 | 80 | 82 | 61 | 69 | 73 | 62 | 63 | 63 | 63 | 61 |
| (13) Rod and Bar | 886 | 693 | 744 | 910 | 1,005 | 899 | 587 | 826 | 900 | 943 | 962 | 810 | 814 | 620 | 770 | 876 | 788 | 798r | 913r | 949r | 885 |
| (14) Plumbing Tube and Pipe | 433 | 378 | 447 | 463 | 519 | 347 | 310 | 374 | 439 | 459 | 483 | 414 | 401 | 369 | 447 | 502 | 524 | 548 | 593 | 529r | 532 |
| (15) Commercial Tube and Pipe | 514 | 441 | 418 | 432 | 463 | 411 | 268 | 331 | 340 | 376 | 420 | 356 | 371 | 257 | 301 | 341 | 319 | 330 | 362r | 384r | 402 |
| **(16) Total Brass Mill Products (page 19)** | **3,110** | **2,506** | **2,684** | **3,008** | **3,273** | **2,821** | **2,062** | **2,588** | **2,746** | **2,909** | **3,044** | **2,533** | **2,630** | **2,035** | **2,383** | **2,741** | **2,424** | **2,508r** | **2,799r** | **2,868r** | **2,751** |
| **(17) Total Foundry Products** | **879** | **782** | **733** | **784** | **820** | **732** | **631** | **606** | **642** | **662** | **726** | **572** | **564** | **444** | **498** | **504** | **470** | **476** | **477** | **515r** | **497** |
| **(18) Total Powder Products** | **61** | **47** | **52** | **54** | **64** | **69** | **46** | **65** | **64** | **56** | **54** | **38** | **44** | **34** | **39** | **43** | **37** | **35** | **39** | **44** | **41** |
| **(19) Domestic Products - Total** | **6,574** | **5,779** | **5,982** | **6,559** | **7,089** | **6,273** | **4,816** | **5,675** | **6,309** | **6,642** | **6,918** | **5,920** | **6,113** | **5,143** | **5,573** | **6,298** | **5,859** | **6,019r** | **6,637r** | **6,757r** | **6,645** |
| **(20) Net Imports of Mill Products (page 20)** | **129** | **132** | **170** | **229r** | **191r** | **92r** | **50r** | **226r** | **202r** | **315r** | **215r** | **16r** | **247r** | **224r** | **338r** | **585r** | **503r** | **524r** | **455r** | **350r** | **269** |
| **(21) Mill Products to Domestic Market*** | **6,703** | **5,911** | **6,152** | **6,788r** | **7,280r** | **6,365r** | **4,866r** | **5,901r** | **6,511r** | **6,957r** | **7,133r** | **5,936r** | **6,360r** | **5,367r** | **5,911r** | **6,863r** | **6,362r** | **6,543r** | **7,092r** | **7,107r** | **6,914** |
| (22) Building Construction | 2,060 | 1,854 | 2,021 | 2,218r | 2,389r | 1,935r | 1,556r | 1,874r | 2,123r | 2,291r | 2,320r | 1,935r | 2,037r | 1,857r | 2,197r | 2,568r | 2,587r | 2,719r | 3,054r | 2,904r | 2,858 |
| (23) Electrical and Electronic Products | 1,712 | 1,602 | 1,628 | 1,724r | 1,847r | 1,695r | 1,163r | 1,474r | 1,672r | 1,779r | 1,888r | 1,642r | 1,747r | 1,470r | 1,487r | 1,665r | 1,448r | 1,505r | 1,605r | 1,670r | 1,654 |
| (24) Industrial Machinery and Equipment | 1,217 | 1,074 | 1,027 | 1,162r | 1,239r | 1,113r | 820r | 963r | 1,042r | 1,137r | 1,157r | 1,007r | 1,082r | 848r | 904r | 993r | 896r | 897r | 949r | 991r | 933 |
| (25) Transportation Equipment | 745 | 634 | 737 | 803r | 916r | 770r | 629r | 866 | 939r | 927r | 903r | 633r | 708r | 565r | 702r | 884r | 809r | 809r | 817r | 848r | 790 |
| (26) Consumer and General Products | 969 | 747 | 739 | 881r | 889r | 852r | 698r | 724r | 735r | 823r | 865r | 719r | 786 | 627r | 621r | 753r | 622r | 613r | 667r | 694r | 679 |

*Markets include - Building Construction: Building Wiring; Plumbing & Heating; Air Conditioning & Commercial Refrigeration; Builders' Hardware; Architectural.
Electrical & Electronic Products: Power Utilities; Telecommunications; Business Electronics; Lighting & Wiring Devices.
Industrial Machinery & Equipment: In-Plant Equipment; Industrial Valves & Fittings; Non-Electrical Instruments; Off-Highway Vehicles; Heat Exchangers.
Transportation Equipment: Automobile; Truck & Bus; Railroad; Marine; Aircraft & Aerospace.
Consumer & General Products: Appliances; Cord Sets; Military & Commercial Ordnance; Consumer Electronics; Fasteners & Closures; Coinage; Utensils & Cutlery; Miscellaneous.

Sources: U.S. Department of Commerce, Bureau of the Census; Metal Powder Producers Assn. (Line 18-1978 on); CDA.
p - preliminary r - revised
(a) - Copper content

# Table 4, Item 16.

## Supply of brass mill products in the United States

**METAL CONTENT, millions of pounds**

| | 1969 | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 | 1989p |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Strip, Sheet and Plate | | | | | | | | | | | | | | | | | | | | | |
| Copper | 238 | 185 | 236 | 239 | 269 | 261 | 212 | 227 | 233 | 234 | 259 | 201 | 227 | 176 | 203 | 254 | 208 | 210r | 242r | 256r | 244 |
| Alloy | 909 | 698 | 728 | 836 | 891 | 798 | 620 | 738 | 740 | 793 | 808 | 672 | 735 | 552 | 593 | 695 | 523 | 559r | 626r | 687r | 627 |
| Total | 1,147 | 883 | 964 | 1,075 | 1,160 | 1,059 | 832 | 965 | 973 | 1,027 | 1,067 | 873 | 962 | 728 | 796 | 949 | 731 | 769r | 868r | 943r | 871 |
| Mechanical Wire | | | | | | | | | | | | | | | | | | | | | |
| Copper | 15 | 14 | 16 | 20 | 14 | 15 | 7 | 10 | 14 | 20 | 26 | 14 | 16 | 15 | 13 | 12 | 11 | 12 | 13 | 11 | 12 |
| Alloy | 115 | 97 | 95 | 108 | 112 | 90 | 58 | 82 | 80 | 84 | 86 | 66 | 66 | 46 | 56 | 61 | 51 | 51 | 50 | 52 | 49 |
| Total | 130 | 111 | 111 | 128 | 126 | 105 | 65 | 92 | 94 | 104 | 112 | 80 | 82 | 61 | 69 | 73 | 62 | 63 | 63 | 63 | 61 |
| Rod and Bar | | | | | | | | | | | | | | | | | | | | | |
| Copper | 146 | 115 | 109 | 117 | 135 | 149 | 77 | 100 | 112 | 116 | 117 | 111 | 112 | 83 | 82 | 93 | 95 | 93r | 112r | 130r | 125 |
| Alloy | 740 | 578 | 635 | 793 | 870 | 750 | 510 | 726 | 788 | 827 | 845 | 699 | 702 | 537 | 688 | 783 | 693 | 705 | 801 | 819 | 760 |
| Total | 886 | 693 | 744 | 910 | 1,005 | 899 | 587 | 826 | 900 | 943 | 962 | 810 | 814 | 620 | 770 | 876 | 788 | 798r | 913r | 949r | 885 |
| Plumbing Tube and Pipe | | | | | | | | | | | | | | | | | | | | | |
| Copper | 415 | 363 | 431 | 446 | 502 | 335 | 302 | 366 | 432 | 451 | 475 | 407 | 393 | 364 | 441 | 496 | 519 | 545 | 589 | 524r | 529 |
| Alloy | 18 | 15 | 16 | 17 | 17 | 12 | 8 | 8 | 7 | 8 | 8 | 7 | 8 | 5 | 6 | 6 | 5 | 3 | 4 | 5 | 3 |
| Total | 433 | 378 | 447 | 463 | 519 | 347 | 310 | 374 | 439 | 459 | 483 | 414 | 401 | 369 | 447 | 502 | 524 | 548 | 593 | 529r | 532 |
| Commercial Tube and Pipe | | | | | | | | | | | | | | | | | | | | | |
| Copper | 363 | 304 | 288 | 305 | 322 | 265 | 171 | 221 | 239 | 280 | 322 | 273 | 284 | 195 | 234 | 277 | 267 | 276 | 305r | 328r | 347 |
| Alloy | 151 | 137 | 130 | 127 | 141 | 146 | 97 | 110 | 101 | 96 | 98 | 83 | 87 | 62 | 67 | 64 | 52 | 54 | 57 | 56 | 55 |
| Total | 514 | 441 | 418 | 432 | 463 | 411 | 268 | 331 | 340 | 376 | 420 | 356 | 371 | 257 | 301 | 341 | 319 | 330 | 362r | 384r | 402 |
| **All Mill Products** | | | | | | | | | | | | | | | | | | | | | |
| **Copper** | 1,177 | 981 | 1,080 | 1,127 | 1,242 | 1,025 | 769 | 924 | 1,030 | 1,101 | 1,199 | 1,006 | 1,032 | 833 | 973 | 1,132 | 1,100 | 1,136r | 1,261r | 1,249r | 1,257 |
| **Alloy** | 1,933 | 1,525 | 1,604 | 1,881 | 2,031 | 1,796 | 1,293 | 1,664 | 1,716 | 1,808 | 1,845 | 1,527 | 1,598 | 1,202 | 1,410 | 1,609 | 1,324 | 1,372r | 1,538r | 1,619r | 1,494 |
| **TOTAL BRASS MILL PRODUCTS** | 3,110 | 2,506 | 2,684 | 3,008 | 3,273 | 2,821 | 2,062 | 2,588 | 2,746 | 2,909 | 3,044 | 2,533 | 2,630 | 2,035 | 2,383 | 2,741 | 2,424 | 2,508r | 2,799r | 2,868r | 2,751 |

Source: CDA
p - preliminary r - revised

## Supply of brass mill products in selected countries

**METAL CONTENT, millions of pounds**

| | 1969 | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 | 1989p |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benelux | NA | NA | NA | NA | 329 | 304 | 258 | 316 | 335 | 306 | 314 | 299 | 266 | 232 | 209 | 235 | 234 | 210 | 206 | NA | NA |
| Canada | 269 | 231 | 221 | 236 | 281 | 264 | 192 | 223 | 232 | 272 | 264 | 191 | 229 | 155 | 183 | 206 | 195 | 196 | 224 | 223r | 243 |
| France | 597 | 585 | 580 | 598 | 667 | 603 | 476 | 569 | 586 | 590 | 638 | 657 | 615 | 600 | 567 | 617 | 561 | 546 | 545 | 604 | 599 |
| Germany | 1,103 | 1,067 | 986 | 1,130 | 1,311 | 1,157 | 932 | 1,219 | 1,207 | 1,219 | 1,337 | 1,403 | 1,277 | 1,256 | 1,378 | 1,546 | 1,511 | 1,560 | 1,621 | 1,748 | 1,798 |
| Italy | 479 | 527 | 494 | 572 | 626 | 654 | 520 | 647 | 639 | 652 | 650 | 734 | 694 | 668 | 697 | 767 | 809 | 873 | 922 | 1,087r | 1,186 |
| Japan | 1,160 | 1,201 | 1,152 | 1,330 | 1,682 | 1,298 | 1,148 | 1,546 | 1,573 | 1,722 | 1,874 | 1,912 | 1,832 | 1,741 | 1,909 | 2,181 | 2,095 | 2,112 | 2,261 | 2,393 | 2,495 |
| Scandinavia | 277 | 279 | 260 | 286 | 316 | 316 | 247 | 285 | 295 | 321 | 348 | 340 | 320 | 324 | 346 | 380 | 357 | 372 | 371 | 393 | 394 |
| Spain | 138 | 132 | 133 | 167 | 193 | 181 | 133 | 178 | 183 | 174 | 191 | 184 | 148 | 172 | 164 | 166 | 163 | 167 | 178 | 192 | 196 |
| Switzerland | 100 | 116 | 104 | 100 | 114 | 118 | 81 | 96 | 116 | 105 | 111 | 120 | 106 | 98 | 106 | 121 | 123 | 116 | 110 | 107 | 104 |
| United Kingdom | 1,035 | 956 | 842 | 905 | 1,004 | 903 | 737 | 803 | 827 | 845 | 797 | 644 | 563 | 597 | 565 | 620 | 601 | 577 | 577 | 568 | 542 |
| United States | 3,110 | 2,506 | 2,684 | 3,008 | 3,273 | 2,821 | 2,062 | 2,588 | 2,746 | 2,909 | 3,044 | 2,533 | 2,630 | 2,035 | 2,383 | 2,741 | 2,424 | 2,508r | 2,799r | 2,868r | 2,751 |

Sources: World Bureau of Metal Statistics; CDA
p - preliminary r - revised NA - not available

# Table 4, Item 20.

## Imports and exports of wire mill, brass mill and powder products

METAL CONTENT, millions of pounds

| | 1969 | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 | 1989p |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Imports of: | | | | | | | | | | | | | | | | | | | | | |
| Wire Rod | 2.4 | 2.4 | 3.0 | 3.0 | 5.3 | 2.8 | 1.5 | 2.5 | 13.8 | 7.0 | 6.2 | 5.4 | 6.0 | 7.4 | 8.6 | 18.1 | 22.8 | 28.2 | 22.4 | 15.5 | 13.4 |
| Bare Wire (including Stranded) | 22.0 | 35.0 | 27.0 | 19.3 | 26.9 | 42.9 | 22.0 | 39.0 | 27.5 | 32.8 | 30.8 | 18.9 | 22.3 | 26.6 | 35.0 | 38.7 | 42.6 | 50.6 | 43.4 | 39.5 | 25.4 |
| Insulated Wire and Cable | | | | 23.9r | 28.9r | 25.5r | 19.1r | 22.7r | 23.0r | 37.7r | 48.5r | 45.1r | 39.9r | 41.3r | 59.0r | 90.0r | 107.2r | 120.6r | 135.6r | 138.5r | 114.9 |
| **Total Wire Mill Products** | **24.4** | **37.4** | **30.0** | **46.2r** | **61.1r** | **71.2r** | **42.6r** | **64.2r** | **64.3r** | **77.5r** | **85.5r** | **69.4r** | **68.1r** | **75.3r** | **102.6r** | **146.8r** | **172.6r** | **198.4r** | **201.4r** | **193.5r** | **153.7** |
| Copper-Strip, Sheet and Plate | 30.9 | 26.9 | 38.7 | 45.7 | 48.7 | 46.9 | 37.8 | 59.9 | 64.7 | 85.8 | 80.1 | 54.1 | 71.8 | 59.1 | 67.6 | 103.8 | 82.4 | 77.3 | 80.7 | 83.0 | 75.7 |
| Rod and Bar | 1.4 | 3.5 | 4.1 | 6.1 | 6.0 | 6.7 | 4.2 | 6.6 | 8.0 | 17.5 | 17.0 | 12.0 | 12.4 | 9.3 | 9.2 | 13.1 | 14.0 | 10.7 | 11.0 | 17.4 | 10.9 |
| Tube and Pipe | 31.4 | 36.4 | 43.1 | 51.6 | 55.0 | 31.3 | 24.3 | 33.7 | 39.9 | 46.3 | 44.8 | 22.9 | 33.8 | 35.7 | 55.1 | 65.8 | 65.1 | 85.2 | 99.1 | 92.6 | 72.9 |
| Alloy-Strip, Sheet and Plate | 45.5 | 47.8 | 74.4 | 92.4 | 84.9 | 57.2 | 51.4 | 104.6 | 105.7 | 153.7 | 121.5 | 81.3 | 140.7 | 124.3 | 158.5 | 232.0 | 191.4 | 172.7 | 145.1 | 123.6 | 108.5 |
| Mechanical Wire | 2.0 | 3.2 | 4.0 | 4.3 | 5.7 | 4.1 | 2.6 | 6.3 | 7.9 | 9.9 | 9.7 | 7.9 | 10.4 | 10.3 | 11.7 | 14.8 | 13.2 | 22.8 | 24.5 | 26.0 | 26.8 |
| Rod and Bar | 12.0 | 6.9 | 7.3 | 12.5 | 17.9 | 16.2 | 11.7 | 41.7 | 33.4 | 51.9 | 48.3 | 26.3 | 121.9 | 51.4 | 47.8 | 83.0 | 51.0 | 55.8 | 64.6 | 74.6 | 75.7 |
| Tube and Pipe | 44.9 | 40.3 | 47.6 | 53.1 | 48.2 | 40.4 | 32.4 | 47.3 | 47.2 | 69.5 | 54.4 | 43.6 | 51.5 | 45.5 | 54.7 | 71.8 | 64.0 | 62.8 | 61.3 | 60.8 | 66.9 |
| **Total Brass Mill Products** | **168.1** | **165.0** | **219.2** | **265.7** | **266.4** | **202.8** | **164.4** | **300.1** | **306.8** | **434.6** | **375.8** | **248.1** | **442.5** | **335.6** | **404.6** | **584.3** | **491.1** | **487.3** | **486.3** | **478.0** | **437.4** |
| **Total Powder Products** | **2.8** | **2.3** | **2.4** | **2.7** | **2.3** | **1.7** | **1.6** | **2.6** | **2.4** | **2.5** | **2.3** | **2.0** | **2.7** | **2.3** | **3.1** | **3.3** | **2.5** | **2.8** | **2.5** | **3.2** | **3.0** |
| **TOTAL IMPORTS** | **195.3** | **204.7** | **251.6** | **314.6r** | **329.8r** | **275.7r** | **208.6r** | **366.9r** | **373.5r** | **514.6r** | **463.6r** | **319.5r** | **513.3r** | **413.2r** | **510.3r** | **734.4r** | **656.2r** | **688.5r** | **690.2r** | **674.7r** | **594.1** |
| Exports of: | | | | | | | | | | | | | | | | | | | | | |
| Wire Rod | 7.2 | 8.3 | 14.6 | 10.9 | 10.4 | 14.0 | 10.9 | 8.5 | 11.2 | 13.0 | 30.9 | 53.5 | 30.7 | 18.2 | 12.5 | 13.2 | 5.2 | 16.8 | 23.0 | 35.0 | 30.7 |
| Bare Wire (including Stranded)[a] | 8.1 | 4.2 | 2.9 | 5.5 | 10.4 | 11.3 | 7.4 | 9.6 | 11.7 | 18.7 | 18.8 | 13.9 | 15.5 | 16.7 | 18.3 | 19.4 | 17.6 | 15.8 | 22.5 | 27.4 | 47.6 |
| Insulated Wire and Cable | 26.0 | 30.3 | 29.8 | 31.9r | 44.0r | 65.4r | 84.0r | 70.6r | 96.9r | 102.1r | 93.8r | 73.5r | 94.3r | 76.0r | 72.5r | 66.8r | 55.8r | 66.7r | 97.8r | 129.8r | 94.1 |
| **Total Wire Mill Products** | **41.3** | **42.8** | **47.3** | **48.3r** | **64.8r** | **90.7r** | **102.3r** | **88.7r** | **119.8r** | **133.8r** | **143.5r** | **140.9r** | **140.5r** | **110.9r** | **103.3r** | **99.4r** | **78.6r** | **99.3r** | **143.3r** | **192.2r** | **172.4** |
| Copper-Strip, Sheet and Plate | 3.2 | 3.3 | 1.5 | 0.9 | 1.8 | 2.2 | 0.8 | 1.4 | 4.2 | 2.9 | 3.3 | 6.7 | 7.3 | 4.3 | 3.1 | 8.7 | 8.1 | 2.7 | 3.4 | 10.5 | 8.6 |
| Rod and Bar | 2.0 | 3.7 | 0.9 | 1.7 | 4.4 | 2.7 | 8.1 | 1.4 | 2.6 | 6.0 | 12.0 | 37.0 | 10.0 | 13.8 | 4.0 | 3.1 | 2.8 | 2.0 | 8.2 | 3.0r | 4.0 |
| Tube and Pipe | 1.9 | 2.1 | 2.5 | 2.3 | 15.5 | 13.5 | 4.4 | 5.1 | 6.2 | 5.8 | 18.8 | 38.9 | 24.1 | 10.1 | 8.0 | 9.5 | 10.0 | 11.8 | 14.3 | 22.1 | 44.7 |
| Alloy-Strip, Sheet and Plate | 4.7 | 4.6 | 4.2 | 7.9 | 12.2 | 14.5 | 6.4 | 8.3 | 8.6 | 9.0 | 10.4 | 17.3 | 28.4 | 10.2 | 11.6 | 11.7 | 15.8 | 11.4 | 16.9 | 34.5 | 21.2 |
| Mechanical Wire | 2.4 | 4.0 | 3.5 | 2.5 | 3.6 | 8.4 | 5.0 | 4.8 | 4.2 | 6.9 | 8.2 | 8.0 | 7.9 | 12.5 | 11.6 | 9.1 | 10.5 | 11.1 | 14.5 | 16.7 | 8.6 |
| Rod and Bar | 4.2 | 6.1 | 12.9 | 14.3 | 17.4 | 30.4 | 15.5 | 15.2 | 15.8 | 19.3 | 15.2 | 20.1 | 18.6 | 11.0 | 15.6 | 16.3 | 14.6 | 14.9 | 16.7 | 24.5 | 50.5 |
| Tube and Pipe | 3.5 | 3.3 | 5.1 | 4.1 | 13.7 | 16.0 | 13.2 | 12.4 | 7.0 | 12.0 | 32.9 | 31.0 | 26.6 | 14.1 | 13.9 | 10.0 | 9.9 | 9.7 | 12.9 | 15.6 | 9.4 |
| **Total Brass Mill Products** | **21.9** | **27.1** | **30.6** | **33.7** | **68.6** | **87.7** | **53.4** | **48.6** | **48.6** | **61.9** | **100.8** | **159.0** | **122.9** | **76.0** | **67.8** | **68.4** | **71.7** | **63.6** | **86.9** | **126.9r** | **147.0** |
| **Total Powder Products** | **3.5** | **3.0** | **3.9** | **3.7** | **5.0** | **5.4** | **2.5** | **3.7** | **3.5** | **3.8** | **3.9** | **3.9** | **2.5** | **2.1** | **1.7** | **1.9** | **2.5** | **3.0** | **4.9** | **5.8** | **5.4** |
| **TOTAL EXPORTS** | **66.7** | **72.9** | **81.8** | **85.7r** | **138.4r** | **183.8r** | **158.2r** | **141.0r** | **171.9r** | **199.5r** | **248.2r** | **303.8r** | **265.9r** | **189.0r** | **172.8r** | **169.7r** | **152.8r** | **165.9r** | **235.1r** | **324.9r** | **324.8** |
| **NET IMPORTS (Table 4, Item 20)** | **128.6** | **131.8** | **169.8** | **228.9r** | **191.4r** | **91.9r** | **50.4r** | **225.9r** | **201.6r** | **315.1r** | **215.4r** | **15.7r** | **247.4r** | **224.2r** | **337.5r** | **564.7r** | **503.4r** | **523.6r** | **455.1r** | **349.8r** | **269.3** |

Sources: U.S. Department of Commerce, Bureau of the Census; Copper & Brass Fabricators Council, Inc.; CDA.

p - preliminary r - revised

(a) - Stranded not included prior to 1972.

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